



PACIFIC NORTHWEST REGIONAL ECONOMIC CONFERENCE

PNREC 2024

58th Pacific Northwest Regional Economic Conference

May 21-23, 2024 | Bend, OR

Final Event Program

Riverhouse Hotel
3065 N Hwy 97
Bend, OR 97701
(541) 389-3111



Contents

About the Pacific Northwest Regional Economic Conference.....	1
Conference Sponsors.....	2
PNREC 2024 AGENDA AT A GLANCE	4
PNREC 2024 DETAILED AGENDA	6
Panel 1: Economics of Changing Demographics.....	6
Panel 2: Nexus between Clean Energy and Smart Transportation: A Bi-National Look at Systems Integration for the Future of Smart Transportation.....	7
Panel 3: Econometric Inquiries (Student Session)	7
Panel 4: Economics of Recreation and Tourism	7
Panel 5: Housing Affordability, the Environment, and the Economy.....	8
Panel 6: Electric Utilities and Decarbonization	8
Panel 7: Wage and Workforce Trends in the Pacific Northwest.....	8
Panel 8: Sustainable Practices: Tourism, Recreation, and the Circular Economy.....	9
Panel 9: Evolution of the Macroeconomy, Socioeconomic Dynamics and Fiscal Policy	9
Panel 10: Energy 1	9
Panel 11: Economic Inquiries 1.....	10
Panel 12: Craft Beer Industry in the Pacific Northwest.....	10
Panel 13: Ports and Maritime	12
Panel 14: Economics of Hydropower.....	12
Panel 15: Issues in Employment	13
Panel 16: Freight Transport.....	13
Panel 17: Examining the Role of the Lower Snake River Dams Through an Equity Lens	13
Panel 18: Economic Inquiries 2.....	14
Panel 19: Transportation and Land Use	14
Panel 20: Impacts of a Changing Economic Landscape	14
Panel 21: Economic Development	15
PNREC Board of Directors.....	16



About the Pacific Northwest Regional Economic Conference

The Pacific Northwest Regional Economic Conference (PNREC) is a non-profit organization established to promote research and education on the economy of the Northwest states and western Canada. The objectives of the Conference are:

- To present a program of professional papers, panels and symposia that relate to regional economics.
- To enable distinguished regional scientists and policy analysts from elsewhere to play a featured role at the conference.
- To provide a forum for those from academia, business and government to meet and interact professionally.
- To introduce and share current regional economic research with students, business and community leaders.

The idea of PNREC came to Charles Tiebout, the noted and highly respected Professor of Urban and Regional Economics at the University of Washington, in 1966. He had observed that economic organizations in other parts of the U.S. — the New England Council, for example, and the Southern Economic Association — were undertaking studies that turned the spotlight on their regional economies. These suggested additional reports, possible policy responses, and governmental grants, both to research the problems further and to propose remedies. Professor Tiebout thought that the Pacific Northwest should also initiate an organization, forum or publication that examined its economy, discovered problem areas and suggested remedial action.

To this end, Tiebout asked business and government economists and academic colleagues concerned with the regional economy to organize a start-up conference at the University of Washington in early May of 1967. The first PNREC was held in 1967 at the Benson Hotel in downtown Portland. The inaugural conference lasted two days and was a great success. The program covered many topics, though it concentrated on the theory and practice of building input-output models that were then under construction in most states of the region. At the end of that first conference, it was agreed that a second one should be convened a year later.

The plan for PNREC had been to have the annual conferences alternate between Seattle and Portland. In 1968, however, Dr. John Guthrie, Chair of the Department of Agricultural Economics at Washington State University, volunteered to organize the next one at his institution. Since that time, PNREC has been staged at sites throughout the Pacific Northwest and western Canada, including Missoula, Spokane, Olympia, Boise, Bellingham, Tacoma, Richland, Vancouver and Victoria B.C.

The 2024 PNREC will be the second held in Bend, Oregon in the past seven years, and the conference has received strong interest that has supported an expanded program. While the conference has experienced highs and lows over the past 58 years, it has survived and will continue to bring the region's economists together each year to share research, maintain connections and build our understanding of the economic issues facing our region.



Conference Sponsors

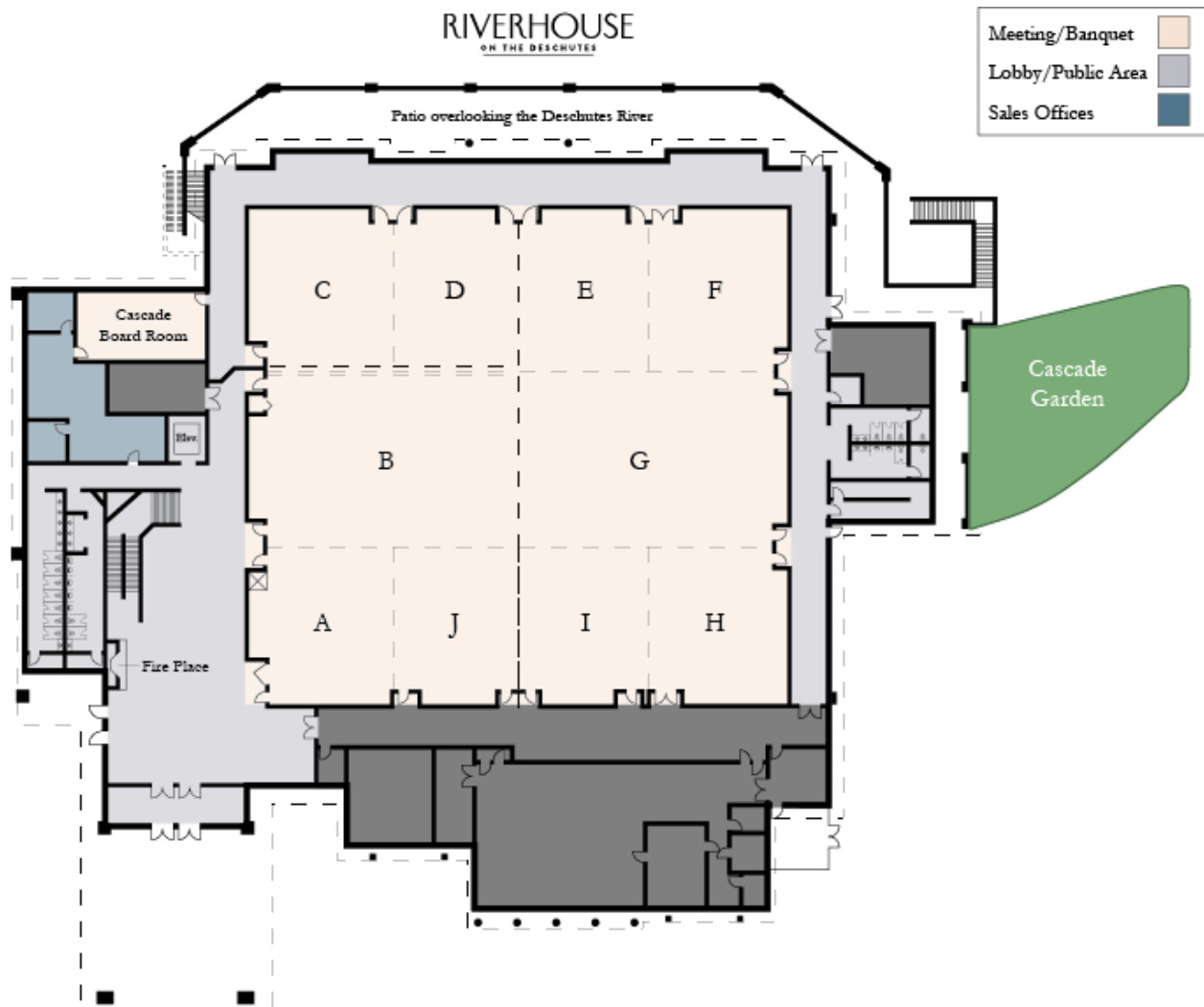


To all our partners, speakers, paper presenters, chairs and volunteers:

Thank You!

Riverhouse Hotel

All general sessions will take place in the Riverhouse Hotel in Cascade ABJ. Receptions will take place in Cascade ABJ or the Cascade Deck. All breakout sessions will take place in the Cascade C to F rooms.





PNREC 2024 AGENDA AT A GLANCE

May 21-23, 2024

Riverhouse Hotel | 3065 N Hwy 97 | Bend, OR 97701

May 21, 2024

5:00 PM – 8:00 PM	Registration
6:00 PM – 8:00 PM	Meet and Greet Reception (Appetizers and Drink Ticket), No Host Bar

May 22, 2024

7:00 AM – 7:00 PM	Registration	
7:30 AM – 8:30 AM	Continental Breakfast	
8:30 AM – 8:40 AM	Welcome from Conference Chair	Patrick Balducci, Argonne National Laboratory
8:40 AM – 9:00 AM	Welcome to Bend	Honorable Melanie Kebler, Mayor of Bend, Oregon
9:00 AM – 10:00 AM	National Economic Outlook	Dr. John Silvia, President, Dynamic Economic Strategy
10:00 AM – 10:15 AM	Networking Break, Beverages and Snacks	
10:15 AM – 11:30 AM	Session 1	
11:30 AM – 11:45 AM	Networking Break	
11:45 AM – 1:15 PM	Lunch and Keynote Address – Chen Zhao, Senior Manager – Economics Team, Redfin	
1:15 PM – 1:30 PM	Networking Break	
1:30 PM – 2:45 PM	Session 2	
2:45 PM – 3:15 PM	Networking Break, Beverages and Snacks	
3:15 PM – 4:30 PM	Session 3	
5:00 PM – 7:00 PM	Reception (Appetizers and Drink Ticket), No Host Bar and Poster Session	



PNREC 2024 AGENDA AT A GLANCE

May 21-23, 2024

Riverhouse Hotel | 3065 N Hwy 97 | Bend, OR 97701

May 23, 2024

7:00 AM – 5:00 PM	Registration
7:30 AM – 8:45 AM	Breakfast
8:00 AM – 8:30 AM	Kelly Cannon-Miller, Deschutes Historical Society and Damon Runberg, Business Oregon
8:30 AM – 9:00 AM	Josh Lehner, Senior Economist, Oregon Department of Administrative Services
9:00 AM – 9:15 AM	Networking Break
9:15 AM – 10:30 AM	Session 4
10:30 AM – 10:45 AM	Networking Break, Beverages and Snacks
10:45 AM – 12:00 PM	Session 5
12:00 PM – 1:15 PM	Lunch and Tiebout Lecture – Dr. Claudia Sahm, New Century Advisors
1:15 PM – 1:30 PM	Networking Break
1:30 PM – 2:45 PM	Session 6
2:45 PM – 3:00 PM	Networking Break, Beverages and Snacks
3:00 PM – 4:45 PM	Regional Outlook
4:45 PM – 5:00 PM	Closing Ceremonies

Logistical Information

Meeting Location

Riverhouse Hotel
3075 N Hwy 97
Bend, OR 97701
(541) 389-3111

Meeting Facilitation

Patrick Balducci
Argonne National Laboratory
pbalducci@anl.gov
(503) 679-7316

*Nearest airport is the Redmond Municipal Airport (RDM) in Redmond, Oregon (25 minutes from Bend). Shuttles to the Riverhouse can be scheduled with the Riverhouse at a cost. Taxis, other shuttles and rental cars are also available at RDM.



PNREC 2024 DETAILED AGENDA

May 21-23, 2024

Riverhouse Hotel | 3065 N Hwy 97 | Bend, OR 97701

May 21, 2024

5:00 PM – 8:00 PM	Registration
6:00 PM – 8:00 PM	Meet and Greet Reception (Appetizers and Drink Ticket), No Host Bar

May 22, 2024

7:00 AM – 7:00 PM	Registration	
7:30 AM – 8:30 AM	Breakfast	
8:30 AM – 8:40 AM	Welcome from Conference Chair	Patrick Balducci, Argonne National Laboratory
8:40 AM – 9:00 AM	Welcome to Bend	Honorable Melanie Kebler, Mayor Bend, Oregon
9:00 AM – 10:00 AM	National Economic Outlook	Dr. John Silvia, President, Dynamic Economic Strategy
10:00 AM – 10:15 AM	Networking Break, Beverages and Snacks	

10:15 AM – 11:30 AM Concurrent Sessions (Session 1)

Panel 1: Economics of Changing Demographics

Room: Cascade C

Chair: Greg Piepmeyer, Idaho Division of Financial Management

Eric Jensen, US Census Bureau, “Exploring Population Estimates and Components of Demographic Change for Counties in the Pacific Northwest”

Sebastien Lavoie, Statistics Canada, “Canadian Demographics: Recent Shifts and Future Trends”



Panel 2: Nexus between Clean Energy and Smart Transportation: A Bi-National Look at Systems Integration for the Future of Smart Transportation

Room: Cascade D

Panel Moderator: Bruce Agnew, Pacific Northwest Economic Region

Panelists:

George Bailey, St. Regis Solar Hydrogen

Matt Morrison, Pacific Northwest Economic Region

Panel 3: Econometric Inquiries (Student Session)

Room: Cascade E

Chair: Toni Sipic, Central Washington University

Jeremy Rexus, Central Washington University, “A Difference-in-Differences Analysis of the Impact of Paid Family Leave Policies on Fertility Rates in the U.S., with an Emphasis in Washington State”

Jaap Donker, Central Washington University, “Analyzing the Impact of State-Based Sexual Misconduct Regulation on ESG Scores”

Serena Perez, Central Washington University, “Integrating Gender and Racial Equity in ESG Performance: A Case Study Analysis and Shareholder Engagement Strategy”

Panel 4: Economics of Recreation and Tourism

Room: Cascade F

Chair: Nick Beleiciks, Oregon Employment Department

Kreg Lindberg, Oregon State University – Cascades, “Employment Precarity and Income Level in Tourism”

Peter Gray and Toni Sipic, Central Washington University, “The Economic Value of Wind Sports at Hood River, Oregon: An Individual Travel Cost Approach”

Donn Johnson (Quinnipiac University), John McKean (Colorado State University), and R.G. Taylor (University of Idaho), “Evaluating Competing Travel Cost Method Recreation Demand Models: The Case of Rafting and Other Whitewater Boating in Central Idaho”

11:30 AM – 11:45 AM	Networking Break
11:45 AM – 1:15 PM	Lunch and Keynote Address – Chen Zhao, Senior Manager – Economics Team, Redfin, “The Post-Pandemic Housing Market”
1:15 PM – 1:30 PM	Networking Break



1:30 PM – 2:45 PM Concurrent Sessions (Session 2)

Panel 5: Housing Affordability, the Environment, and the Economy

Room: Cascade C

Panel Moderator: Billy Leung, REMI

Panelists:

Vanessa Fry (Boise State University)

Lewis Lem (Port of Portland)

Ali Fumall (Washington State Department of Ecology)

Panel 6: Electric Utilities and Decarbonization

Room: Cascade D

Chair: Mark Weimar, Pacific Northwest National Laboratory (PNNL)

Massoud Jourabchi, Greenway Research Group, “State of Economy and Electric Utilities in the Northwest 2022-2023”

Abigail King, Pacific Northwest National Laboratory, “Assessing the Resource Adequacy and Community Impacts of an Evolving Grid: Considerations for State Regulators”

Betty Mittelstaedt and Toni Sipic, Central Washington University, “Measuring the Effectiveness of Carbon Pricing: The Impact on Corporate ESG Performance and Carbon Emissions”

Panel 7: Wage and Workforce Trends in the Pacific Northwest

Room: Cascade E

Chair: Anneliese Vance-Sherman, Washington State Employment Security Department (ESD)

Anneliese Vance-Sherman, Washington ESD, “Telling the Story of Washington’s Healthcare Workforce in Several Datasets”

Amy Watson, Montana Department of Labor and Industry, “Montana Post-Secondary Workforce Report”

Ajsa Suljic, Washington ESD, “Washington State Wage Records Pilot Study”



Panel 8: Sustainable Practices: Tourism, Recreation, and the Circular Economy

Room: Cascade F

Chair: Mark Buckley, EcoNW

Mark Buckley, EcoNW, “Economic Importance and Funding Strategies of Recreation on Central Oregon's National Forests”

Rebecca Chen, EcoNW and Nick Chun, EcoNW, “Economic Values and Strategies from Sustainable Tourism in Bend Oregon”

Mark Beattie, Washington State University, “Textile Waste and Double-loop Circular Economy”

2:45 PM – 3:15 PM	Networking Break, Beverages and Snacks
--------------------------	----------------------------------------

3:15 PM – 4:30 PM Concurrent Sessions (Session 3)

Panel 9: Evolution of the Macroeconomy, Socioeconomic Dynamics and Fiscal Policy

Room: Cascade C

Panel Moderator: Chris Judson, REMI

Panelists:

Fanny Roberts, Washington State Office of Financial Management

Mazen Malik, Oregon Legislative Revenue Office

Billy Leung, REMI

Panel 10: Energy 1

Room: Cascade D

Chair: Massoud Jourabchi, Greenway Research Group

Sadie Bender, Pacific Northwest National Laboratory, “Distribution System Operator Cost Analysis”

Sumittra Ganguli, Pacific Northwest National Laboratory, “Evaluating the Technological and Commercialization Impact of EERE’s SBIR/STTR Program”

Massoud Jourabchi, Greenway Research Group, “State of Data Centers in the Northwest 2022-2030”



Panel 11: Economic Inquiries 1

Room: Cascade E

Chair: Hart Hodges, Western Washington University

Thomas Tenerelli, Central Washington University, “Structuring and Advising a Student Investment Club at a Regional State University in the Pacific Northwest for Maximum Resume and Career Impact”

Caden McNair, Central Washington University and James Gibson, Central Washington University, “Central Washington University Student Price Index Project 2023”

Betty Mittelstaedt, Central Washington University, “Are Skilled Immigrants More Likely to Experience Occupation-Education Mismatch Within the U.S.”

Panel 12: Craft Beer Industry in the Pacific Northwest

Room: Cascade F

Panel Moderator: Jeff Dense, Eastern Oregon University

Panelists:

Tyler Brown, Barley Brown's Beer, Baker City, OR

Ben Edmunds, Breakside Brewing, Milwaukie, OR

Max Coleman, Coleman Agriculture, Gervais, OR

Tonya Cornett, 10 Barrel Brewing, Bend, OR



5:00 PM – 7:00 PM

Reception (Appetizers and Drink Ticket, No Host Bar) and Poster Session

P1 - Landen Hashimura, Central Washington University, “Assessing the Economic and Political Feasibility of High-Speed Rail (HSR) in Washington State”

P2 - Lewis Lem, Port of Portland, “Travel Recession or Post-COVID/Zoom Adjustment to Inter-regional Travel? Evidence from the Portland, Oregon Region”

P3 - Sorin Garber (Sorin Garber Associates), Bonnie Gee Yosick (EcoNW), and Lewis Lem (Port of Portland), “Economic Impacts and Benefit Cost Analysis of Port of Portland PDX Airport Air Cargo Expansion and Improvement Project”

P4 - Chris Judson, REMI, “Measuring the Economic, Equity and Environmental Contributions of Transit Infrastructure”

P5 – Patrick Hatzenbuehler, University of Idaho, “Economic and Environmental Implications of Dairy Industry Growth and Increasing Concentration in Southern Idaho”

P6 – Becky Knudson, Oregon Department of Transportation, “Climate Risk Impact Analysis: Quantifying the Uncertain”

P7 – Mark Weimar (Pacific Northwest National Laboratory), Siyuan Wang (Argonne National Laboratory), and Patrick Balducci (Argonne National Laboratory), “Early Results from the U.S. Department of Energy’s Pumped Storage Hydro Valuation Technical Assistance Program.”

P8 – Kelly Cullen, Eastern Washington Institute for Public Policy and Economic Analysis, “Using Targeted Interventions to Improve Recruitment and Retention for Spokane Childcare Centers”

P9 – Christine Holland, Pacific Northwest National Laboratory, “Findings from the Clean Rural Shared Electric Mobility Project, an Electric Vehicle Carshare Program in Hood River, OR”



May 23, 2024

7:00 AM – 5:00 PM	Registration	
7:30 AM – 8:45 AM	Breakfast	
8:00 AM – 8:30 AM	Homesteading to Remote Work: It's the Economy, Stupid	Kelly Cannon-Miller, Deschutes Historical Society and Damon Runberg, Business Oregon
8:30 AM – 9:00 AM	The Economic Advantages and Struggles of Scenic Areas	Josh Lehner, Senior Economist, Oregon Department of Administrative Services
9:00 AM – 9:15 AM	Networking Break	

9:15 AM – 10:30 AM Concurrent Sessions (Session 4)

Panel 13: Ports and Maritime

Room: Cascade C

Chair: Chris Lawless, University of Victoria

Breann Preston, Port of Portland, "Port of Portland Economic Impact and Workforce Study"

Anna Johnson, Oregon Employment Department, "Oregon's Maritime Sector"

Eric Jessup, Washington State University, "Measuring Economic Benefits of Columbia-Snake River Navigation"

Panel 14: Economics of Hydropower

Room: Cascade D

Chair: Patrick Balducci, Argonne National Laboratory

Mark Weimar, Pacific Northwest National Laboratory, "Economic and Social Aspects of a Run of the River Powerhouse on the Nuyakuk River"

Kyle Wilson, Pacific Northwest National Laboratory, "Cataloging and Quantifying Additional Value Streams from Non-Powered Dam Conversion"

Patrick Balducci, Argonne National Laboratory, "Technoeconomic Studies for the Goldendale and Banner Mountain Pumped Storage Hydro Plants"



Panel 15: Issues in Employment

Room: Cascade E

Chair: Gail Krumenauer, Oregon Employment Department

Molly Hendrickson, Oregon Employment Department, “Oregon’s Per Capita Personal Income Statewide and by County”

Gail Krumenauer, Oregon Employment Department, “Workforce Impacts of Paid Family, Medical, and Safe Leave in Oregon”

Kreg Lindberg, Oregon State University – Cascades, “Worker Income Level, Mobility, and Income Growth in Tourism

10:30 AM – 10:45 AM | Networking Break, Beverages and Snacks

10:45 AM – 12:00 PM Concurrent Sessions (Session 5)

Panel 16: Freight Transport

Room: Cascade C

Chair: Eric Jessup

Tim Nadreau, Washington State University, “Optimizing Efficiencies in Timber Truck Routing”

Adam Wilson, Washington State University, “The Impacts of Ocean Carrier Consolidation at Pacific Northwest Ports”

Hanouf Alhunayshil, Washington State University, “Drivers of Freight Transport Costs in the Pacific Northwest”

Panel 17: Examining the Role of the Lower Snake River Dams Through an Equity Lens

Room: Cascade D

Moderator: Clark Mather, Northwest RiverPartners

Panelists:

Michael Deen, Public Power Council

Rob Rich, Shaver Transportation

Michelle Hennings, Washington Association of Wheat Growers

Austin Rohr, Northwest RiverPartners

Neil Maunu, Pacific Northwest Waterways Association



Panel 18: Economic Inquiries 2

Room: Cascade E

Chair: Chair Jenny Liu, Portland State University

Josh Lehner, Oregon Department of Administrative Services, “Zero Migration, a Demographic Alternative Scenario”

Erica Johnson, Gonzaga University, “Do Residential Water Use Restrictions Reduce Water Consumption”

Jenny Liu, Portland State University, “Making Noise -- Investigating the Economic Significance of Oregon's Commercial Music Sector”

12:00 PM – 1:15 PM	Lunch and Tiebout Lecture – Dr. Claudia Sahm, New Century Advisors. “It’s Not the US economy: Finances of Families Across the Country.”
1:15 PM – 1:30 PM	Networking Break

1:30 PM – 2:45 PM Concurrent Sessions (Session 6)

Panel 19: Transportation and Land Use

Room: Cascade C

Chair: Becky Knudson, Oregon Department of Transportation

Wisnu Sugiarto, Washington State University, “Crashless in Seattle? Spatial Relationships Between Traffic Stop and Vehicle Accident Locations”

Daniel Bigelow, Oregon State University, “The Impact of Urban Growth Boundaries on Development Density and Housing Prices”

Becky Knudson, Oregon Department of Transportation, “The 2024 Oregon Travel Study: Behavior Data Used in Travel Forecast Models”

Panel 20: Impacts of a Changing Economic Landscape

Room: Cascade D

Chair: Scott Bailey, Washington Employment Security Department

Christian Kaylor, Prosper Portland, “The Portland Workforce After COVID: Who’s Leaving the City, Who’s Staying, and What’s the New Normal?”

Jake Wagner, Washington State University, “Impacts of Covid-19 on Export Volumes from Pacific Northwest Ports”

Damon Runberg, Business Oregon, “The Erosion of Oregon’s Competitive Advantage in Innovation”



Panel 21: Economic Development

Room: Cascade E

Chair: Tom Potiowsky

Fanny Roberts, Washington Office of Financial Management, “Structural Decomposition Analysis of Washington’s Economy Over Two Input-Output Model Cycles”

Codrin Nedita, University of Washington at Bothel, “Regional Innovation Engines in the Pacific Northwest”

Jenny Liu, Portland State University and Sheila Martin, Portland State University, “Portland State University Economic Impact to the Regional Economy”

2:45 PM – 3:00 PM	Networking Break, Beverages and Snacks
3:00 PM – 4:45 PM	<p>Regional Outlook</p> <p>Chair: Tom Potiowsky, Portland State University</p> <p>Alaska – Dan Stickel, State of Alaska (virtual)</p> <p>Alberta – Felicia Mutheardy, City of Edmonton</p> <p>British Columbia – Jackson De Kock, BC Ministry of Finance (virtual)</p> <p>Idaho – Matthew Hurt, Idaho Division of Financial Management</p> <p>Montana – Amy Watson, Montana Department of Labor and Industry</p> <p>Oregon – Josh Lehner, Oregon Department of Administrative Services</p> <p>Washington – Dave Reich, Washington State Economic and Revenue Forecast Council</p>
4:45 PM – 5:00 PM	Closing Ceremonies



PNREC Board of Directors

Mr. Nick Beleiciks, PNREC President, Oregon Employment Department

Dr. Hart Hodges, PNREC Vice President, Center for Economic and Business Research, Western Washington University

Ms. Becky Knudson, PNREC Secretary, Oregon Department of Transportation

Dr. Terry Morlan, PNREC Treasurer, Northwest Power and Conservation Council

Mr. Scott Bailey, Washington Employment Security Department

Mr. Patrick Balducci, Argonne National Laboratory

Mr. Massoud Jourabchi, Greenway Research Group

Mr. Chris Lawless, University of Victoria

Dr. Jenny Liu, Portland State University

Dr. Tom Potiowsky, Department of Economics, Portland State University

Dr. Greg Piepmeyer, Idaho Division of Financial Management

Dr. Mark Weimar, Pacific Northwest National Laboratory

Dr. Anneliese Vance-Sherman, Washington State Employment Security Department



PACIFIC NORTHWEST REGIONAL ECONOMIC CONFERENCE

*A forum to exchange knowledge and expertise
between academia, business and government*

