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## WELCOME TO vNAPW 2021!

Dear Colleagues,

Welcome to the 12th (virtual) North American Productivity Workshop, hosted by the Miami Herbert Business School at the University of Miami.

vNAPW 2021 will span five days. Tuesday, June 8th is the Young Researchers' Workshop, providing an excellent opportunity for the rising stars in our field to present their work to a dedicated audience and receive feedback from renowned scholars. We are excited to have such a diverse array of excellent plenary speakers. This year we will have two themed plenary sessions on the linkages between inequality and discrimination with productivity and inefficiency. Several of the contributed papers this year also speak to this important connection. The four main days of the conference cover Monday June 7th, Wednesday June 9th, Thursday June 10th and Friday June 11th. We have a total of 27 contributed sessions along with 4 plenary sessions.

All of us on the local organizing and scientific committees welcome you to vNAPW 2021.

Christopher F. Parmeter

## COMMITTEES

**Local Organizing Committee**

Christopher F. Parmeter Miami Herbert Business School, University of Miami

**Scientific Committee**

Subal C. Kumbhakar	Binghamton University	USA
Christopher F. Parmeter	University of Miami	USA
Robin C. Sickles	Rice University	USA
Marcel Voia	University of Orleans	France
Paul W. Wilson	Clemson University	USA

**Plenary Speakers**

Samuele Centorrino	Stony Brook University
Kevin Fox	University of New South Wales
Konstantinos Kounetas	University of Patras
Jacques Mairesse	ENSAE
Carlos Martins-Filho	University of Colorado
Bruce Mayer	University of Chicago
Lea Samek	OECD
Robin C. Sickles	Rice University
John Rust	Georgetown University
Ran Wang	Truist Bank
Paul W. Wilson	Clemson University

## CONFERENCE MECHANICS

## Sessions

- All sessions will be hosted on Zoom. This year we will be using a meeting structure with breakout rooms to serve as the platform for parallel sessions as well as for registrants to catch up, have lunch, take coffee breaks and cocktail hours. At this time we cannot guarantee that all sessions will be recorded for remote consumption given the intricacies of the breakout room technology, please plan your viewing preferences accordingly.
- The majority of sessions contain three papers. Plenary sessions will run for 1 hour and 45 minutes, with 30 minutes per speaker and 5 minutes Q&A. Each parallel session is scheduled to run for 75 minutes with each paper being allotted 20 minutes with a five minute Q&A afterwards. The late afternoon sessions are scheduled to run for 90 minutes with each paper being afforded 20 minutes speaking and a 10 minutes Q& for the whole session. Sessions chairs are expected to host the session and take care of “logistics” for all of the speakers of the session. Session chairs will have the option to record sessions locally (on their own desktops).
- Each day’s events will be hosted through a unique web address that is open through the date of the actual session. The breakout room technology presumes attendees have installed the **latest version of Zoom** on their machines.
- The chair of the session is the presenter of the **first paper** listed in the session. Chairs are responsible for keeping the session on time and directing question and answers at the conclusion of each presentation.
- In the case a presenter is not present in the parallel session, the session will continue and finish early. In this setting the chair can give more time to each paper at his or her discretion.
- All times listed are Eastern Time Zone. Please be aware of this when making plans for your presentation or for those presentations you wish to attend live.

CONFERENCE PROGRAM AT A GLANCE

**Monday June 7th**

8:45-9:00am	Opening Remarks
9:00-10:45am	Plenary Session I (Inequality and Productivity I)
10:45-11:00am	Zoom Coffee Break
11:00am-12:15pm	Parallel Sessions I
12:15-1:15pm	Zoom Lunch Break
1:15-2:30pm	Parallel Sessions II
2:30-3:00pm	Zoom Coffee Break
3:00-4:30pm	Parallel Sessions III

**Tuesday June 8th, Young Researchers' Workshop**

8:50-9:00am	Opening Remarks
9:00-10:00am	Session I
10:00-10:30am	Zoom Coffee Break
10:30-11:30am	Session II
11:30am-1:00pm	Zoom Lunch Break
1:00-2:30pm	Session III

**Wednesday June 9th**

9:00-10:45am	Plenary Session II (Environmental Efficiency)
10:45-11:00am	Zoom Coffee Break
11:00am-12:15pm	Parallel Sessions IV
12:15-1:15pm	Zoom Lunch Break
1:15-2:30pm	Parallel Sessions V
2:30-3:00pm	Zoom Coffee Break
3:00-4:30pm	Parallel Sessions VI

**Thursday June 10th**

9:00-10:45am	Plenary Session III (Advances in Methodology)
10:45-11:00am	Zoom Coffee Break
11:00am-12:15pm	Parallel Sessions VII
12:15-1:15pm	Zoom Lunch Break
1:15-2:30pm	Parallel Sessions VIII
2:30-3:00pm	Zoom Coffee Break
3:00-4:30pm	Parallel Sessions IX

**Friday June 11th**

9:00-10:45am	Plenary Session IV (Inequality and Productivity II)
10:45-11:00am	Zoom Coffee Break
11:00am-12:15pm	Parallel Sessions X
12:15-1:15pm	Zoom Lunch Break
1:15-2:30pm	Parallel Sessions XI
2:30-3:00pm	Zoom Coffee Break
3:00-4:30pm	Parallel Sessions XII
4:30-4:45pm	Closing Remarks

## SESSION SCHEDULES

**Monday June 7th. [Click to Join](#)**

**8:45-9:00am: Welcome and Opening Remarks**

**9:00-10:45am: Plenary Session I**

Chair: Robin Sickles

*Productivity Growth, Economic Well-being, and the Inefficiency of Discrimination and Inequality*, Robin Sickles (Rice University)

*Productivity Inequality*, Erwin Diewert (University of British Columbia and University of New South Wales–Sydney); Kevin Fox (University of New South Wales–Sydney); Shipei Zeng (University of New South Wales–Sydney); Stephanie Parsons (Reserve Bank of Australia)

*Poverty and Living Standards in the U.S. Over Time*, Bruce Meyer (University of Chicago)

**10:45-11:00am: Zoom Coffee BreakOuts**

**11:00am-12:15pm: Parallel Sessions I**

**Inequality/Discrimination – Breakout Room A**

*The Role of Poverty Measurements in Achieving Equity in Education Through School Finance Reform*, Lori Taylor (Texas A&M University); Shawna Grosskopf (Oregon State University); Kathy Hayes (SMU); Laura Razzolini (University of Alabama)

*Fraud and Productivity: Latent Average Treatment Effects*, Jaap Bos (Maastricht University); Haidong Fang (Maastricht University); Carlos Vinagreiro (Central Bank of Brazil)

*Accumulation of Human Capital in Canada, 1970 to 2020: An Analysis by Gender*, Wulong Gu (Statistics Canada)

**DEA I – Breakout Room B**

*Estimation of Production Frontiers Through Random Forest: The Treatment of Lack of Robustness and Curse of Dimensionality Under Free Disposal Hull*, Miriam Esteve (University Miguel Hernandez of Elche); Juan Aparicio (University Miguel Hernandez of Elche); Jesus Rodriguez-Sala (University Miguel Hernandez of Elche); Joe Zhu (Worcester Polytechnic Institute)

*Quantile Data Envelopment Analysis: An Application Using the Johansen Capacity Model*, John Walden (NOAA/NMFS); Joseph Atwood (Montana State University)

*Variable Selection Techniques for Big and Wide Data Applied to Data Envelopment Analysis (DEA) with Application to the Swedish Electricity Distribution Market*, Toni Duras (Jönköping International Business School)

### **12:15-1:15pm: Zoom Breakout Lunch**

### **1:15-2:30pm: Parallel Sessions II**

#### **SFA I – Breakout Room A**

*Semiparametric Estimation of a Spatial Autoregressive Nonparametric Stochastic Frontier Model*, Kien Tran (University of Lethbridge); Mike G. Tsionas (Lancaster University Management School)

*Nonparametric Tests of Tail Behavior in Stochastic Frontier Models*, William Horrace (Syracuse University); Yulong Wang (Syracuse University)

#### **Agriculture I – Breakout Room B**

*Estimating the Input Use Efficiency of Rice Farmers in Bangladesh: An Application of the Primal System of Stochastic Frontier Approach*, Subir Bairagi (University of Arkansas); Khondoker Mottaleb (International Maize and Whet Improvement Center)

*Evaluating Productivity Growth of Austrian Crop Farms by Semiparametric Estimation*, Simon Pröll (University of Natural Resources and Life Sciences); Klaus Salhofer (University of Natural Resources and Life Sciences)

*Regional Variation in Technical Efficiency in Wheat Production: A Non-convex Meta-Frontier Analysis of Indian Farm Level Data*, Subhash Ray (University of Connecticut)

### **2:30-3:00pm: Zoom Coffee Breakouts**

### **3:00-4:30pm: Parallel Sessions III**

#### **COVID – Breakout Room A**

*Investigating Heterogeneous Effects of the COVID-19 Pandemic on Canadian Firm Dynamics*, Kim Huynh (Bank of Canada); Danny Leung (Statistics Canada); Robert Petrunia (Lakehead University); Marcel Voia (University of Orleans)



*Estimating a Stochastic Epidemic Frontier Model that Controls for Undocumented COVID-19 Cases with an Application to Spain*, Luis Orea (University of Oviedo); Inmaculada Álvarez (Universidad Autónoma de Madrid); Alan Wall (University of Oviedo)

*COVID-19 Severity: A New Approach to Quantifying Global Cases and Deaths*, Daniel Millimet (Southern Methodist University); Christopher F. Parmeter (University of Miami)

*Performances in COVID-19 Management Across Countries: Do Subnational Finances Matter?*, Simanti Bandyopadhyay (Shiv Nadar University); Sujana Kabiraj (University of Wisconsin - Stevens Point); Subrata Majumder (Sundarban Mahavidyalaya)

### **Banking I – Breakout Room B**

*Benchmarking the Performance of U.S. Commercial Banks: New Results from New Methods*, Shirong Zhao (Dongbei University of Finance and Economics)

*Exchange Rate Volatility and Bank Efficiency*, Mikhail Mamonov (CERGE-EI); Christopher F. Parmeter (University of Miami); Artem Prokhorov (University of Sydney)

*Inverted VEA for Worst-Practice Benchmarking: With an Application to Distress Prediction of European Banks*, Giannis Karagiannis (University of Macedonia); Stavros Kourtzidis (University of Dundee); Panagiotis Ravanos (University of Macedonia)

*Comparing the Persistence of Different Returns to Scale Spill-Ins and Spill-Outs: Evidence for US Banks*, Anthony Glass (University of Sheffield); Karligash Glass (Loughborough University)

### **Productivity – Breakout Room C**

*Allocative Efficiency and the Productivity Slowdown*, Lin Shao (Bank of Canada)

*Identifying Unobserved Heterogeneity in Productivity*, Ruben Dewitte (Ghent University); Catherine Fuss (National Bank of Belgium); Angelos Theodorakopoulos (University of Oxford)

*A Macro-Finance model with Realistic Crisis Dynamics*, Goutham Gopalakrishna (Ecole Polytechnique Federale de Lausanne)

*Technological Hierarchies and Learning: Spillovers, Complexity, Relatedness and the Moderate Role of Absorptive Capacity*, Nikos Chatzistamoulou (University of Patras); Kostas Tsekouras (University of Patras); Konstantinos Kounetas (University of Patras)

**Tuesday June 8th – Young Researchers’ Workshop. [Click to Join](#)**

8:50-9:00am: Opening Remarks

**9:00-10:00am: Session I**

*Does Corruption Diminish the Productivity of Female-Managed Firms More Severely? A Study of Latin America and the Caribbean*, M. Cui (Bank of Canada)

***Discussant:*** Jaap Bos

*Linguistic Distance to English and University’s Research Performance*, Yihui Cao (Loughborough University)

***Discussant:*** Alecos Papdopoulos

**10:00-10:30am: Zoom Coffee BreakOuts**

**10:30am-11:30am: Session II**

*Multi-Horizon and Multi-Moment Nonparametric Frontier-Based Fund Rating: Proposal and Buy and Hold Backtesting Strategy*, Kristiaan Kerstens (CNRS-LEM); Paolo Mazza; (IESEG School of Management); Tiantian Ren (IESEG School of Management); Ignace Van de Woestyne (KU Leuven)

***Discussant:*** Cinzia Daraio

*Assessing Horizontal Mergers Using Convex and Nonconvex Nonparametric Technologies: A First Empirical Exploration*, Xiaoqing Chen (IESEG School of Management); Kristiaan Kerstens (CNRS-LEM); Diego Prior (Universitat Autònoma de Barcelona); Qingyuan Zhu (Nanjing University of Aeronautics & Astronautics)

***Discussant:*** Ane Elixabete Ripoll-Zarraga

**11:30am-1:00pm: Zoom Breakout Lunch**

**1:00-2:30pm: Session III**

*Product Diversification in Microfinance: Insights from Scope Economies*, Valentina Hartarska (Auburn University); Denis Nadolnyak (Auburn University); Jingfang Zhang (Auburn University)

***Discussant:*** Subir Bairagi

*Cost Incentives in Regulatory DEA models with Discretionary Outputs: The Case of Danish Water Regulation*, Peter Bogetoft (Copenhagen Business School); Emil Heesche; University of Copenhagen)

**Discussant:** Konstantinos Kounetas

*A Ray-Based Input Distance Function to Model Zero-Valued Output Quantities: Derivation and an Empirical Application*, Juan Price (Universidad Adolfo Ibáñez); Arne Henningsen (University of Copenhagen)

**Discussant:** Subal Kumbhakar

**Wednesday June 9th. [Click to Join](#)**

**9:00-10:45am: Plenary Session II**

Chair: Robin Sickles

*Greenhouse Gas Emission Inefficiency Spillover Effects in European Countries*, Ran Wang (Truist Bank)

*Measurement of Eco-efficiency and Convergence: Evidence from a Nonparametric Frontier Analysis*, Konstantinos Kounetas (University of Patras)

*Environmental Efficiency in the Supply of Drinking Water*, Roberto Mosheim (USDA); Robin Sickles (Rice University)

**10:45-11:00am: Zoom Coffee BreakOuts**

**11:00am-12:15pm: Parallel Sessions IV**

**SFA II – Breakout Room A**

*Joint Distributional Stochastic Frontier Model*, Rouven Schmidt (Georg-August University Göttingen); Thomas Kneib (University of Göttingen)

*Measurement Error Estimation Within Stochastic Frontier Analysis*, Nicole Adler (Hebrew University of Jerusalem); Adit Kivel (Hebrew University)

*Quantile Regression in Stochastic Frontier Analysis: Some Fundamental Considerations*, Alecos Papadopoulos (Athens University of Economics and Business)

**DEA II – Breakout Room B**

*Support Vector Frontiers: A New Approach for Estimating Production Functions Through Support Vector Machines*, Daniel Valero-Carreras (University Miguel Hernandez of Elche); Juan Aparicio (University Miguel Hernandez of Elche); Nadia Guerrero (University Miguel Hernandez of Elche)

*Approximations and Inference for Nonparametric Production Frontiers*, Cinzia Daraio (Sapienza University of Rome); Léopold Simar (Université Catholique de Louvain)

*Further Improving Finite Sample Approximation by Central Limit Theorems for Aggregate Efficiency*, Shirong Zhao (Dongbei University of Finance and Economics)

**12:15-1:15pm: Zoom Breakout Lunch**

**1:15-2:30pm: Parallel Sessions V****Agriculture II – Breakout Room A**

*Technical Efficiency of Intensive and Extensive Technology in Dairy Farming in the European Union*, Laure Latruffe (INRAE); Andreas Niedermayr (University of Natural Resources and Life Sciences); Yann Desjeux (INRAE); K Hervé Dakpo (INRAE); Kassoum Ayouba (INRAE); Lena Schaller; (University of Natural Resources and Life Sciences); Jochen Kantelhardt; (University of Natural Resources and Life Sciences); Yan Jin (Teagasc Rural Economy and Development Centre); Kevin Kilcline (Teagasc Rural Economy and Development Centre); Mary Ryan (Teagasc Rural Economy and Development Centre); Cathal O'Donoghue (National University of Ireland)

*A Dynamic Performance Analysis of the Norwegian Dairy Farms to Achieve Sustainable Development*, Habtamu Alem (Norwegian Institute of Bioeconomy Research)

*New Evidences of Brazilian Agriculture TFP Growth - A Stochastic Frontier Approach with Climatic Variables and Land Suitability Index*, Humberto Spolador (University of São Paulo); André Danelon; University of São Paulo)

**Health and Happiness I – Breakout Room B**

*Benchmarking and Predicting the Demand for a New Diabetes Drug*, Peter Bogetoft (Copenhagen Business School)

*The Spanish Primary Health Service: A Visual Study of Data Envelopment Analysis (DEA)*, Ane Elixabete Ripoll-Zarraga (University of Plymouth); Jose Luis Franco-Miguel (Universidad Pontificia Comillas); Carmin Fullana Belda (Universidad Pontificia Comillas)

*Slacking in Happiness Pursuit? Where Do You and Your Country Stand?* Oleg Badunenko (Brunel University London); José Manuel Cordero (University of Extremadura); Subal Kumbhakar (Binghamton University)

**2:30-3:00pm: Zoom Coffee BreakOuts****3:00-4:30pm: Parallel Sessions VI****Education – Breakout Room A**

*Research, Teaching, Performance: An Analysis of Indian Higher Education Using Frontiers and Meta Frontiers*, Simanti Bandyopadhyay (Shiv Nadar University); Aishna Sharma (Shiv Nadar University)

*The Role of Armed Conflict on the Efficiency of Educational Quality*, Alexei Arbona Estrada (Pontificia Universidad Javeriana Cali); Víctor Gímenez (Universitat Autònoma de Barcelona); Sebastian López Estrada (Universitat Autònoma de Barcelona); Diego Prior (Universitat Autònoma de Barcelona);

*Performance Assessment of Upper Secondary Schools in Italian Regions Using a Circular Pseudo-Malmquist Index*, Flavia Barbosa; University of Porto); Ana Camanho (Faculdade de Engenharia da Universidade); Thiago Sobral (University of Porto); Luisa Varriale (University of Naples Parthenope)

*Study Programs' Performances and Their Determinants. An Application to Flemish Secondary Education*, Anna Mergoni (KU Leuven); Kristof DeWitte (KU Leuven)

## **Banking II – Breakout Room B**

*The Impact of Loan Quality on Variable Cost: Evidence from Indian Banking*, Chuang Li (University of Connecticut); Subhash Ray (University of Connecticut); Shilpa Sethia (University of Connecticut)

*Emergence of Digital Banking and Labor Use Efficiency: A Study of Indian Bank Branches*, Kankana Mukherjee (Babson College)

*A Multi-Stage Dynamic Network Structure for Productivity Assessment of Indian Banks: Post-Crisis Years Trajectory and Convergence Clubs*, Rachita Gulati (Indian Institute of Technology Roorkee); Sunil Kumar (South Asian University)

*Nonparametric Measurement of Potential Gains from Mergers: An Additive Decomposition and Application to Indian Bank Mergers*, Subhash Ray (University of Connecticut); Shilpa Sethia (University of Connecticut)

**Thursday June 10th. [Click to Join](#)**

**9:00-10:45am: Plenary Session III** Chair: Christopher F. Parmeter

*Nonparametric Estimation of Stochastic Frontier Models with Weak Separability*, Samuele Centorrino (Stony Brook University); Christopher F. Parmeter (University of Miami)

*Nonparametric, Stochastic Frontier Models with Multiple Inputs and Outputs*, Léopold Simar (Université Catholique de Louvain); Paul Wilson (Clemson University)

*Robust Estimation of Additive Boundaries with Quantile Regression and Shape Constraints*, Yan Fang (Shanghai University of International Business and Economics); Lan Xue (Oregon State University); Carlos Martins-Filho (University of Colorado); Lijian Yang (Tsinghua University)

**10:45-11:00am: Zoom Coffee BreakOuts**

**11:00am-12:15pm: Parallel Sessions I**

### **Agriculture II – Breakout Room A**

*Does Off-Farm Work Compete With or Complement Farm Production? Assessing Scale Efficiency of Arable Farms in Austria*, Felicity Addo (University of Natural Resources and Life Sciences); Klaus Salhofer (University of Natural Resources and Life Sciences)

*The Cost of Violence for Agricultural Productivity: Evidence from Colombian Armed Conflict*, Wilman Iglesias Pinedo (University of Nebraska-Lincoln)

*Technology and Technical Efficiency Gaps Correcting for Selectivity Bias: Insights from a Value Chain Project in Nepal*, Florian Neubauer (University of Connecticut); Tisorn Songsermsawas (International Fund for Agricultural Development); Joanna Zegarra (Universidad del Pacífico); Boris Bravo-Ureta (University of Connecticut)

### **DEA III – Breakout Room B**

*Efficiency Networks in EU: An Heterogeneous Panel Data Frontier Model*, Camilla Mastromarco (University of Calabria)

*The Effect of Model Specification on Returns-to-Scale Characterization of Production Frontiers*, Victor Podinovski (University of Loughborough)

*Cooperation Among Supply Chain Agents – A Novel Use of Inventory Models in DEA*, Ardavan Babaei (Sharif University of Technology); Adel Hatamimarbini (De Montfort University); Majid Khedmati (Sharif University of Technology); Mohammad Reza Akbari Jokar

(Sharif University of Technology)

**12:15-1:15pm: Zoom Breakout Lunch**

**1:15-2:30pm: Parallel Sessions VII**

**Eco-Efficiency I – Breakout Room A**

*Environmental Efficiency Measurement When Producers Control Pollutants Under Heterogeneous Conditions: A Generalization of the Materials Balance Approach*, Andreas Eder (Universität für Bodenkultur)

*Cost-Efficient Policies with Multiple Bad Outputs*, Rolf Färe (Oregon State University); Shawna Grosskopf (Oregon State University); Carl Pasurka (U.S. Environmental Protection Agency)

**Plant Dynamics – Breakout Room B**

Chair: Yaser Sattari

*Do Productivity Laggards Ever Catch Up With Leaders?* Evguenia Bessonova (Bank of Russia); Anna Tsvetkova (Bank of Russia)

*The Role of Adjustment Costs and Distortions in Misallocation; What Can We Learn from the Exit Margin?* Yaser Sattari (Simon Fraser University)

*Plant Capacity Notions: Existence Results at Firm and Industry Levels and Further Interpretations*, Kristiaan Kerstens (CNRS - LEM); Jafar Sadeghi (Western University)

**Climate – Breakout Room C**

*A Productivity Indicator for Adaptation to Climate Change*, Bradley Barnhart (Oregon State University); Moriah Bostian (Lewis & Clark College); Rolf Färe (Oregon State University); Shawna Grosskopf (Oregon State University)

*Disentangling Rational State-Contingent Choices from Weather Uncertainty*, Daniel Voica (Massey University); Simone Pieralli (Massey University)

*Heterogeneous Adaptations to Climate Change: A Decomposition Analysis*, Tao Xiang (Northeastern University); Fan Li (Wageningen University); Hui Cao (Southwest University); Yuneng Du (Anhui Agricultural University)

**2:30-3:00pm: Zoom Coffee BreakOuts**

**3:00-4:30pm: Parallel Sessions VIII**



### SFA III – Breakout Room A

*Regularized Conditional Estimators of Unit Inefficiency in Stochastic Frontier Analysis, with Application to Electricity Distribution Market*, Zangin Zeebari (Jönköping International Business School and Karolinska Institutet); Kristofer Møansson (Jönköping International Business School); Pär Sjölander (Jönköping International Business School); Magnus Söderberg (University of Southern Denmark and Ratio Institute)

*Production Analysis with Asymmetric Error*, Oleg Badunenko (Brunel University London); Daniel Henderson (University of Alabama)

*Robustness and Influence in Stochastic Frontier Analysis*, Alex Stead (University of Leeds); Phill Wheat (University of Leeds); William Greene (New York University)

*Inference in the Nonparametric Stochastic Frontier Model*, Christopher F. Parmeter (University of Miami); Léopold Simar (Université Catholique de Louvain); Ingrid van Keilegom (Université Catholique de Louvain); Valentin Zelenyuk (The University of Queensland)

### Eco-Efficiency II – Breakout Room B

*Efficiency and Effectiveness on the Management of E-Waste: The European Experience*, Isabel Narbón-Perpiñá (Universitat Autònoma de Barcelona); Diego Prior (Universitat Autònoma de Barcelona)

*Greenhouse Gas Emission Reduction Potentials in Europe by Sector: A Bootstrap-Based Nonparametric Efficiency Analysis*, Jens Krüger (Darmstadt University of Technology); Moritz Tarach (Darmstadt University of Technology)

*Eco-Efficiency of Agricultural Landscapes in North Rhine-Westphalia*, Silke Huettel (Universität Bonn); Stefan Seifert (Universität Bonn); Saskia Wolff (Universität Bonn)

**Friday June 11th.** [Click to Join](#)

**9:00am-10:45am: Plenary Session IV**

Chair: Robin Sickles

*Health and Human Capital*, Lea Samek (OECD, King's College London and ESCoE); Mary O'Mahony (King's College London and ESCoE)

*The Quantity/Quality Tradeoff and Productivity Measurement*, John Rust (Georgetown University)

*Gender Discrimination and Promotion in Science. Event History Analysis for the French National Institute of Physics*, Jacques Mairesse (ENSAE and Maastricht University); Michele Pezzoni (Université Côte d'Azur, CNRS, GREDEG); Fabiana Visentin (Maastricht University)

**10:45am-11:00am: Zoom Coffee BreakOuts**

**11:00am-12:15pm: Parallel Sessions X**

**Agriculture II – Breakout Room A**

*Crop Diversification and Productivity in Colombian Coffee Farms: A Latent Class Model Approach*, Orlando Rodriguez Garcia (Technical University of Munich and Universidad Tecnológica de Pereira); Maria Vrachioli (Technical University of Munich); Johannes Sauer (Technical University of Munich)

*Risk-adjusted Parametric and Nonparametric Production Functions: The Case of Basmati Rice in India*, Gudbrand Lien (Inland Norway University of Applied Science); Subal Kumbhakar (Binghamton University); Ashok Mishra (Arizona State University)

*Social Disparities and Productivity Gaps Among Farmers in the United States: A Preliminary Assessment*, Eric Njuki (USDA); Boris Bravo-Ureta (University of Connecticut); Nigel Key (USDA); Michee Lachaud (Florida A&M University)

**DEA IV – Breakout Room B**

*A Methodological Framework to Incorporate Social Survey Data in DEA: The Case of Household Performance in Hurricane Evacuation*, Saman Mohsenirad (Virginia Tech); Konstantinos Triantis (Virginia Tech)

*On Aggregating Programmatic Efficiency*, Giannis Karagiannis (University of Macedonia)

*Identifying the Most Important Set of Weights when Modelling Bad Outputs with the Weak Disposability Approach*, Lorenz Aigner (University of Copenhagen); Mette Asmild (University of Copenhagen)

### **12:15pm-1:15pm: Zoom Breakout Lunch**

### **1:15pm-2:30pm: Parallel Sessions XI**

#### **Process Development – Breakout Room A**

*Sustainable Budgeting and Financial Balance: Which Lever Will You Pull?* Giovanna D’Inverno (KU Leuven); Francesco Vidoli (University of Rome Tre); Kristof De Witte (KU Leuven)

*Financing a Black Box: Dynamic Investment with Persistent Private Information*, Felix Feng (University of Washington)

*A Multidimensional Comprehension Index of Systems Thinking*, Ning-Yuan Liu (Virginia Tech); Hesam Mahmoudi (Virginia Tech); Konstantinos Triantis (Virginia Tech)

#### **Health and Happiness II – Breakout Room B**

*Performance Analysis of Hospitals in Australia and its Peers: A Systematic Review*, Zhichao Wang (The University of Queensland); Valentin Zelenyuk (The University of Queensland)

*Healthcare Structural Reform and the Performance of Public Hospitals: The Case of Queensland, Australia*, Bao Hoang Nguyen (The University of Queensland)

*Admitting Privileges and Doctor Efficiency*, Andy Wilson (Brandeis University); Jon Chilingirian (Brandeis University)

#### **Firms – Breakout Room C**

*Up or Out! A Firm’s First Year and Unobserved Initial Condition of Entrant Shipbuilding Firms*, Kim Huynh (Bank of Canada); Hossein Kavand (Carleton University); Robert Petrunia (Lakehead University); Marcel Voia (University of Orleans)

*Does Subsidy Increase Firm Productivity? Evidence from Chinese Manufacturing Enterprises*, Mingyang Li (Binghamton University); Subal Kumbhakar (Binghamton University); Man Jin (Oakland University)

*Relationship Between Credit Conditions and Efficiency in Real Sector: Firm-Level Evidence*, Viktor Khanzhyn (Nebraska Wesleyan University)

### **2:30-3:00pm: Zoom Coffee BreakOuts**

### **3:00-4:30pm: Parallel Sessions XII**

#### **Public Sector II – Breakout Room A**

*Estimating the Cost Efficiency of Public Service Providers in the Presence of Demand Uncertainty*, Hong Ngoc Nguyen (The University of Queensland); Christopher O'Donnell (The University of Queensland)

*Management Practices Across Public Utilities*, Maria Nieswand (Loughborough University); Thomas Triebs (Loughborough University); Takuya Urakami (Kindai University)

*Benchmarking and Regulation of the Distribution of Incentives: A Frontier-based Approach with an Endogenous Set of System-wide Output Prices*, Mohsen Afsharian (Technische Universität Braunschweig); Heinz Ahn (Technische Universität Braunschweig); Sara Kamali (Technische Universität Braunschweig); Ana Lúcia Lopes (Lopes-Ahn & Consultores Associados)

*Efficiency Analysis with Unobserved Inputs: An Application to Endogenous Automation in Railway Traffic Management*, Laurens Cherchye (University of Leuven); Bram De Rock (Université Libre de Bruxelles); Dieter Saelens (KU Leuven); Marijn Verschelde (IÉSEG School of Management); Bart Roets (Ghent University/Infrabel)

#### **SFA IV – Breakout Room B**

*On Estimation of the Generalized Stochastic Frontier Panel Data Model*, Mark Andor (RWI); David Bernstein (Environmental Protection Agency); Christopher F. Parmeter (University of Miami); Stephan Sommer (RWI)

*“sfaR”: An R Routine for Advances in Stochastic Frontier Framework*, K. Hervé Dakpo (INRAE); Yann Desjeux (INRAE); Laure Latruffe (INRAE)

*Estimating Input-Output Coefficients from Aggregate Firm-Level Data: A Review of Various Methods*, Rasmus Zitthen (University of Copenhagen); Arne Henningsen (University of Copenhagen); Simon Andreasen (University of Copenhagen); Mads Frandsen (University of Copenhagen); Mathias Jürgensen (University of Copenhagen)

*Persistent and Transient Efficiency in Access to Safe Water: A Brazilian Case Study*,  
Maria Perez-Urdiales (Stony Brook University); Samuele Centorrino (Stony Brook University); Laura Karpuska (EESP-FGV)

**4:30pm-4:45pm: Closing Remarks**