CONTENTS

Welcome to NAPW X! ................................. 2
Committees and Sponsors ......................... 3
Conference Mechanics ............................ 4
Conference Program at a Glance ............... 5
Session Schedules ................................. 7
Tuesday June 12th – Early Researchers’ Workshop 7
Wednesday June 13th .............................. 9
Thursday June 14th ............................... 14
Friday June 15th .................................. 20
Welcome to NAPW X!

Dear Colleagues,

Welcome to the 10th North American Productivity Workshop, hosted by the Miami Business School at the University of Miami in beautiful Coral Gables. This year we are excited to have over 150 scholars across all six continents and over 30 countries represented on the program.

NAPW X will span four days. Tuesday, June 12th is the Young Researchers' Workshop, providing an excellent opportunity for the rising stars in our field the opportunity to present their work to a dedicated audience and receive feedback from renowned scholars in the field. The three main days of the conference cover Wednesday June 13th to Friday June 15th. We have a total of 37 parallel sessions along with four plenary sessions and a keynote speech.

Each day of the conference will have a plenary session featuring talks from two experts on similar topics. Our plenary sessions will be given by Cinzia Daraio (Sapienza University of Rome) and Timo Kuosmanen (Aalto University), Jaap Bos (Maastricht University) and Paul Wilson (Clemson University), Subal Kumbhakar (Binghamton University) and Peter Schmidt (Michigan State University), and Mette Asmild (University of Copenhagen) and Kostas Triantis (Virginia Polytechnic Institute and State University). Our keynote will be delivered by Amil Petrin (University of Minnesota) on Wednesday morning.

There are also two special sessions on Thursday at this year’s conference. The first, sponsored by the National Oceanic and Atmospheric Administration, is on the latest research pertaining to efficiency analysis of fisheries and will take place on Thursday from 9:00-10:30. The second, titled “Efficiency Estimation for Incentive Regulation” assembled by Mark Andor (RWI - Leibniz Institute for Economic Research) which will take place on Thursday from 4:00-6:00pm.

Lastly, the local organizing committee would like to thank both Loughborough University and the National Oceanic and Atmospheric Administration for sponsoring NAPW X. We encourage you to stop by Loughborough University’s booth in the main assembly hall to see what is in store for the 2019 meetings. Our main welcome reception on June 13th will be held at the Donna Shalala Student center overlooking Lake Osceola in the heart of campus and is sponsored in part by Loughborough University and the Economics Department. We hope you can attend.

All of us on the local organizing and scientific committees welcome you to Miami and hope that you enjoy your stay!

Christopher F. Parmeter
COMMITTEES AND SPONSORS

Local Organizing Committee, Miami Business School, University of Miami

Christopher F. Parmeter

Scientific Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Chambers</td>
<td>University of Maryland</td>
<td>USA</td>
</tr>
<tr>
<td>Anthony Glass</td>
<td>Loughborough University</td>
<td>UK</td>
</tr>
<tr>
<td>William H. Greene</td>
<td>New York University</td>
<td>USA</td>
</tr>
<tr>
<td>William C. Horrace</td>
<td>Syracuse University</td>
<td>USA</td>
</tr>
<tr>
<td>Andrew L. Johnson</td>
<td>Texas A&amp;M University</td>
<td>USA</td>
</tr>
<tr>
<td>Christopher F. Parmeter</td>
<td>University of Miami</td>
<td>USA</td>
</tr>
<tr>
<td>John Ruggiero</td>
<td>University of Dayton</td>
<td>USA</td>
</tr>
<tr>
<td>Robin Sickles</td>
<td>Rice University</td>
<td>USA</td>
</tr>
<tr>
<td>Spiro Stefanou</td>
<td>University of Florida</td>
<td>USA</td>
</tr>
<tr>
<td>Paul W. Wilson</td>
<td>Clemson University</td>
<td>USA</td>
</tr>
</tbody>
</table>

Sponsors

The School of Business and Economics, Loughborough University, UK
National Oceanic and Atmospheric Administration
Conference Mechanics

Registration
Registration will be available all four days of the conference from 8:00am-5:00pm in the main lobby of the Storer Auditorium. The registration desk will also be available to provide any needed assistance each day throughout the conference.

Sessions
- All sessions, coffee breaks and lunches will take place at the Miami Business School.
- Internet access is free everywhere on campus and can be accessed through CanesGuest wifi. There is also an eduroam connection throughout campus.
- The majority of sessions contain three papers for the 90 minute sessions and four papers for the 120 minute sessions. Each paper should be allocated 30 minutes in these instances.
- The chair of each parallel session is the last presenting author. Time cards of 5, 1 and 0 minutes will be provided in each room along with a presentation clicker. Please do not take these time cards or clickers with you when the session is over.
- In 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.

Catering
The following are included in the registration fee for all participants
- A light continental breakfast offered between 8:00am and 9:00am each day of the conference.
- Lunch each day of the conference.
- Tea, coffee and light refreshments served between each of the sessions every day of the conference.
- Drinks and hors d’oeuvres on Tuesday, June 12th at the Miami Business School.
- Drinks and hors d’oeuvres on Wednesday, June 13th at the Shalala Student Center.

The Gala Banquet on Thursday, June 14th is optional and not included in the regular registration fee. The Gala Banquet is hosted this year at the Rusty Pelican and tickets for this event will be included in your registration packet if you elected to attend. Shuttle service to and from the Rusty Pelican will be provided from the NAPW X conference site.
Conference Program at a Glance

Tuesday June 12th, Young Researchers’ Workshop – All Sessions in Storer Auditorium
8:00am-9:00am Breakfast
9:00am-10:30am Session I
10:30am-11:00am Coffee Break
11:00am-12:30pm Plenary Session I
12:30pm-1:30pm Lunch
1:30pm-3:00pm Session II
3:00pm-3:30pm Coffee Break
3:30pm-5:00pm Session III
5:00pm-6:00pm Welcome Reception

Wednesday June 13th
8:00am-9:00am Breakfast
9:00am-9:30am Opening Remarks
9:30am-10:30am Keynote Lecture
10:30am-11:00am Coffee Break
11:00am-12:30pm Parallel Session I
12:30pm-2:00pm Lunch (Separate JPA Editorial Board Lunch)
2:00pm-3:30pm Plenary Session II
3:30pm-4:00pm Coffee Break
4:30pm-6:00pm Parallel Session II
6:00pm-7:30pm Cocktail Reception

Thursday June 14th
8:00am-9:00am Breakfast
9:00am-10:30am Parallel Session III
10:30am-11:00am Coffee Break
11:00am-12:30pm Plenary Session III
12:30pm-2:00pm Lunch
2:00pm-3:30pm Parallel Session IV
3:30pm-4:00pm Coffee Break
4:00pm-6:00pm Parallel Session IV
6:00pm Pick up for Gala Banquet
Friday June 15th
8:00am-9:00am  Breakfast
9:00am-10:30am  Parallel Session VI
10:30am-11:00am  Coffee Break
11:00am-12:30pm  Plenary Session IV
12:30pm-2:00pm  Lunch
2:00pm-4:00pm  Parallel Session VII
4:00pm-4:30pm  Coffee Break
4:30pm  Closing Remarks
SESSION SCHEDULES

Tuesday June 12th – Early Researchers’ Workshop.
All sessions will be held in Storer Auditorium

8:00am-8:50am: Arrival and continental breakfast

8:50am-9:00am: Opening Remarks

9:00am-10:30am: Session I
Chair: Antonio Peyrache

Cost Efficiency and Climate Policy: Lessons From the German Manufacturing Sector, Maja Zarkovic

Discussant: Christine Amsler

Impacts on Efficiency of Merging the Swedish District Courts, Pontus Mattsson

Discussant: Antonio Peyrache

Efficiency Assessment of Sociotechnical Infrastructure Management Systems: The Case of Belgian Railroads, Taylan Topcu

Discussant: Kristiaan Kerstens

10:30am-11:00am: Coffee Break

11:00am-12:30pm: Plenary Session I – Intriguing Applications of Efficiency Analysis
Chair: Jaap Bos

Synergies in Joint Production of Multiple Outputs, Timo Kuosmanen

New Perspectives on Estimation and Inference About Research Productivity, Cinzia Daraio

12:30pm-1:30pm: Lunch

1:30pm-3:00pm: Session II
Chair: Subal Kumbhakar
Introducing the Targets-Based Nash-Bargaining Two-Tier Stochastic Frontier Framework, Alecos Papadopoulos

**Discussant:** Subal Kumbhakar

Likelihood-Ratio Test for Two-Stage DEA: Theory and Application to Economic Growth, Manh Pham

**Discussant:** Paul Wilson

Deconvolution with Laplace Error of Unknown Variance, Jun Cai

**Discussant:** Andrew Johnson

3:00pm-3:30pm: Coffee Break

3:30pm-5:00pm: Session III
Chair: Daniel Henderson

Labor Misallocation and Income Differences: Beyond Cobb-Douglas, Jan Trenczek

**Discussant:** Daniel Henderson

As the Mercury Soars, is Your Bottom Line Melting?, Nora Pankratz

**Discussant:** David Kelly

Bankers’ Pay: Market-Based Versus Performance-Based Contracting, Natalya Zelenyuk

**Discussant:** Jaap Bos

5:00pm-6:30pm: Welcome Reception
Wednesday June 13th.

8:00am-9:00am: Arrival and Continental Breakfast
8:00am-5:00pm: Registration

9:00am-9:30am: Welcome and Opening Remarks – Storer Auditorium

9:30am-10:30am: Keynote Lecture – Storer Auditorium
Chair: Robin Sickles

*The Sources of Aggregate Productivity Growth According to Micro-level Manufacturing Data*, Amil Petrin

10:30am-11:00am: Coffee Break

11:00am-12:30pm: Parallel Sessions I

**Spatial SFA Theory – SB 208**
Chair: Anthony Glass

*Estimation of Spatial Error Stochastic Frontier Models*, Federico Belotti*, Giuseppe Ilardi, and Andrea Piano Mortari

*Parametric Stochastic Frontier Models and Probability Statements with Spatial Errors*, Ian Wright* and Christopher Parmeter


**Banking 1 – SB 302**
Chair: Jaap Bos

*The Effect of Minority Foreign Ownership on Vietnamese Bank Efficiency: A One-Stage Stochastic Frontier Analysis Approach*, Tran Trang*, David Tripe, and Jing Liao

*Inefficiency and Bank Failures: A Joint Bayesian Estimation of a Stochastic Frontier Model and a Hazards Model*, Jim Sanchez*, Diego Restrepo Tobon, and Andrés Ramírez Hassan

*Passing the Buck: Tax Distortions and Credit Crashes*, Jaap Bos*

**Dairy Farming – SB 308**
Chair: Jose Zofio

Estimating Technical, Revenue, Allocative, and Profit Efficiencies of Genetic Traits for Dairy Bulls and Cows, Christine Stephan*, Loren Tauer, and Heather Huson

Economic Inefficiency Measurement with Bad Outputs: Extensions of By-Production Models, Juan Aparicio, Magdalena Kapelko, and Jose L. Zofio*

Agriculture 1 – AGB 331
Chair: Michael Tröster

Assessing the Comparability Between SFA and LMM with Hierarchical Data: The Case of Technical Efficiency, Yashree Mehta* and Bernhard Brümmer

Determinants of Technical Efficiency in Brazilian Agriculture: A Regional Study of Corn and Soybean Crops, Pedro Soares* and Humberto Spolador

Nutrient Use and Precision Agriculture Technology in the Corn Sector in the United States, Robert Mosheim* and David Schimmelpfennig

Integration of Transport Costs Into a Cost Function for Fertilizer Application and Effects on a Model Base Fertilizer Strategy, Michael Tröster*

Applications of DEA 1 – AGB 431
Chair: Chao-Tzung Kang

A System of Incentives for Units in Multi-Group Organisations, Mohsen Afsharian*

Analyzing the Efficiency of Health Care Centers in Pakistan: An Application of Data Envelopment Analysis, Sadia Farooq*

A Mixed Network DEA Model in the Presence of Shared Inputs and Shared Outputs, Chao-Tzung Kang*

12:30pm-2:00pm: Lunch

2:00pm-3:30pm: Plenary Session II – Topics on Stochastic Frontier Analysis – Storer Auditorium
Chair: William Horrace

Can Inefficiency Xist in the Presence of a Neoclassical Xorsist? A Response From the SF Bench, Subal Kumbhakar
The Use of Copulas in Stochastic Frontier Models, Peter Schmidt

3:30pm-4:00pm: Coffee Break

4:00am-6:00pm: Parallel Sessions II

Network DEA – SB 208
Chair: Maria Silva

Modelling Firm Level Network Utility Costs with an Average System Model: A Simple Method to Control for Within Firm Heterogeneity in System Characteristics, David Saal*, Maria Nieswand, and Pablo Arocena

Network DEA: Summa Summarum, Antonio Peyrache* and Maria Silva

The Regulation Impact on the Service Providers’ Efficiency in Brazil’s Sanitation Sector, Anne Carvalho, Raquel Sampaio, and Luciano Sampaio*

Pitfalls in Network DEA: The Case of DMUs with a Parallel or Series Internal Structure, Maria Silva*, and Dimitris Sotiros

Advances – SB 302
Chair: Andrew Johnson

Hinging Hyperplanes as a Nonparametric Estimator, Ole Olesen*, and John Ruggiero

A Bridge Too Far? The State of the Art in Combining the Virtues of Stochastic Frontier Analysis and Data Envelopment Analysis, Christopher Parmeter and Valentin Zelenyuk*

A Horse Racing Track to Compare Nonparametric and Parametric Efficiency Estimation Methods, Mark Andor and Stephan Sommer*

Axiomatic Nonparametric Production Functions: Relaxing Concavity and Homotheticity, Daisuke Yagi, Yining Chen, Andrew Johnson*, and Hiroshi Morita

Index Numbers and Decompositions – SB 308
Chair: Erwin Diewert

Statistical Methods for Computing Proper Index Numbers, Chris O’Donnell*

A Complete Decomposition of Profit Change: Bennet and Luenberger Indicators, Juan Aparicio and Jose L. Zofío*
The Local Circularity Test for the Bilateral Malmquist Index, Jesús Pastor* and Knox Lovell

Parametric Latent Class Analysis with Färe-Primont TFP Decomposition: Application to French Grazing Livestock Farms, Hervé Dakpo*, Yann Desjeux, Philippe Jeanneaux, and Laure Latruffe

The Difference Approach to Productivity Measurement and Exact Indicators, Erwin Diewert* and Kevin Fox

Environment – AGB 331
Chair: Christopher Holt

Effect of Reducing Nitrogen Oxide Emissions (via 1990 Clean Air Act), and ISO Membership, on Cost Efficiency in the Electric Utility Industry, Gerald Granderson* and Finn Førsund

Estimates of the Marginal Cost of NOX and PM2.5 Emissions Reductions from U.S. Manufacturing from 1990 to 2014 with Projections to 2025, Jenny Thomas*

Shadow Price Estimation Using Convex Quantile Regression, Timo Kuosmanen and Xun Zhou*
Shadow Prices of CO2 Emissions in the U.S. Power Generation Industry, Christopher Holt*

Energy – AGB 431
Chair: Paul Rouse

Cost Efficiency of Norwegian Electricity Distribution Companies: Disentangling Persistent and Transient Technical and Allocative Efficiency, Subal Kumbhakar, Ørjan Mydland*, Andrew Musau, and Gudbrand Lien

Resource Allocation in Multidivisional Multiproduct Firms: Examining the Divisional Productivity of Energy Companies, Binlei Gong and Robin C. Sickles*

Energy Price Policies and the Relationship Between Factors of Production: Evidence from Iranian Firm-Level Data, Karim Hasani*

Benchmarking and Regulation: Scale Elasticity (SE) Measurement for Electricity Distribution Businesses (EBDs), Paul Rouse*, Dimitris Margaritis, and Maryam Hasannasab

Cross-Country Growth and Factor Bias – AGB 531
Chair: Daniel Henderson
Firm Heterogeneous Factor-Biased Technological Change, Ruben Dewitte*

The Maximization of World Human Development, Daniela Puggioni* and Antonio Peyrache

Factor Biased Technical Change: A Nonparametric Approach, Michele Battisti*, Massimo Del Gatto, and Christopher Parmeter

A Partial Elasticity of Substitution Production Function, Daniel Henderson* and Christopher Parmeter

6:00pm-7:30pm: Cocktail Reception – Shalala Student Center
Thursday June 14th.

8:00am-9:00am: Arrival and Continental Breakfast
8:00am-5:00pm: Registration

9:00am-10:30am: Parallel Sessions III

Special Session – Fisheries – SB 208
Chair: Larry Perruso

Diversification, Efficiency and Productivity in Catch Share Fisheries, Daniel Solís, Juan Agar*, and Julio del Corral


Evaluating the Impact of Individual Fishing Quota Management on Vessel Technical Efficiency in the Gulf of Mexico Grouper-Tilefish Commercial Fishery, Andrew Ropicki, Larry Perruso*, and Sherry Larkin

SFA Methods – SB 302
Chair: Richard Hofler

Distinguishing Heterogeneity and Inefficiency in a Panel Data Stochastic Frontier Model, Christine Amsler*

Estimation of a Production Frontier with Unobserved Managerial Ability, Antonio Alvarez*, Carlos Arias, and William Greene

Panel Data Extensions to Discrete Data Stochastic Frontier Models, Richard Hofler* and Eduardo Fe

Regional Efficiency – SB 308
Chair: Stefan Seifert

A Conditional Efficiency and Visual Analytics Approach to Regional Smart Specialization, Marco Angelini*, Cinzia Daraio, Francesco Leotta, Giuseppe Santucci, and Pierluigi Toma

Local Government Efficiency and the Political Characteristics, Stefanie Vanneste*

Vineyard Efficiency and Regulation - On the Consequences of the 2008 EU Wine Policy Reform, Stefan Seifert* and Marica Valente
Meta-Frontier – AGB 331
Chair: Osman Zaim

The Price is Right! Profitability, Productivity and Capacity Utilization with Environmental Considerations, John Walden* and Min-Yang Lee

Energy Efficiency Performance of U.S. States: A Meta-Frontier Directional Technology Distance Function Approach, Osman Zaim*

Education – AGB 431
Chair: Panagiotis Ravanos

The Effect of Additional Resources for Disadvantaged Students: Evidence from a Conditional Efficiency Model, Kristof De Witte, Mike Smet, and Giovanna D’Inverno*

The Transient and Persistent Efficiency of Italian and German Universities: A Stochastic Frontier Analysis, Tommaso Agasisti* and Sabine Gralka

A Value Efficiency Analysis BoD Model, Panagiotis Ravanos* and Giannis Karagiannis

10:30am-11:00am: Coffee Break

11:00am-12:30pm: Plenary Session III – Frontiers in Banking – Storer Auditorium
Chair: Subal Kumbhakar

Why Estimating Bank Efficiency is a Real Challenge, Jaap Bos

US Banking in the Post-Crisis Era, Paul Wilson

12:30pm-2:00pm: Lunch

2:00pm-3:30pm: Parallel Sessions IV

Applications of DEA 2 – SB 208
Chair: Alfons Oude Lansink

Cardinality Constraints for Variable Selection in DEA, Chris Rose, Antonio Peyrache*, and Gabriela Sicilia

Modelling Production Technologies with Multiple Scalable Component Processes, Ole Olsen, Victor Podinovski*, and Cláudia Sarrico
Dynamic Inefficiency of the European Union Meat Processing Industry, Magdalena Kapelko, James Mutambo, and Alfons Oude Lansink*

Plant Level Studies – SB 302
Chair: Gianluca Antonecchia

An Input-Oriented Version of Johansen’s Plant-Capacity Measure, Giovanni Cesaroni*

Plant Capacity and Attainability: Exploration and Remedies, Kristiaan Kerstens*, Jafar Sadeghi, and Ignace Van de Woestyne

Productivity and Price-Setting by Multiproduct Firms, Gianluca Antonecchia*

Alternative Insights – SB 308
Chair: Minyan Zhu

Network Competition and Team Chemistry in the NBA, Hyunseok Jung*, William Horrace, and Shane Sanders

Infrastructure, Resource Allocation, and Productivity Growth, Luis Orea*, Alberto Gude, and Luis Servén

A Nonparametric Measure for Competition in the UK Residential Mortgage Markets, Minyan Zhu* and Antonio Peyrache

Well-Being – AGB 331
Chair: Nicky Rogge

An Individual-Level Benefit-of-the-Doubt Composite Indicator Approach: Measuring Multidimensional Wellbeing in EU Member States, Pim Verbunt*

Efficiency and Subjective Well-Being in Heterogeneous Contexts: A Cross-Nation Study, Jose Cordero*, Cristina Polo, and Javier Salinas


Spatial SFA Applications – AGB 431
Chair: Oliver Haase

Spatial Dependence in Technical Efficiency Due to Common Farm Consultants: An Application to Spanish Dairy Farms, Inmaculada Álvarez, Luis Orea, and Alan Wall*
Government Investment and Water Quality: A Spatial Stochastic Frontier Analysis, Carolina Crispin Fory*

Dairy Farm Efficiency Measurement Using Spatial Stochastic Frontiers, Oliver Haase* and Bernhard Brümmer

Information and Financing – AGB 531
Chair: Paulo Rodrigues

Identifying Financing Constraints from Production Behavior, Laurens Cherchye, Bram De Rock, Annalisa Ferrando, Klaas Mulier, and Marijn Verschelde*

How to Survive and Compete: The Impact of Information Asymmetry on Productivity, Man Jin*, and Subal Kumbhakar

LBO’s by Private Equity: Is it a Win-Win for Investors and Employees? Jaap Bos, Matteo Millone, Christopher Parmeter, and Paulo Rodrigues*

3:30pm-4:00pm: Coffee Break

4:00pm-6:00pm: Parallel Sessions V

Special Session – Efficiency Estimation for Incentive Regulation – SB 208
Chair: Mark Andor

Futuristic Regulation: Incentivizing Innovative Technologies and New Markets in Electricity Distribution, Roar Amundsveen and Hilde Marit Kvile*

The Cost of Regulatory Decentralization, Peter Bogetoft and Per Agrell*

Incentive Regulation of Electricity Distribution Networks in Finland, Timo Kuosmanen*

Combining Uncertainty with Uncertainty to Get Certainty? Efficiency Estimation for Regulatory Oversight, Mark Andor*, Christopher Parmeter and Stephan Sommer

Patents, Productivity and Policy – SB 302
Chair: Danny Leung

Patent Citation Network and Firm Productivity: The Case of Photovoltaic, Jong-Rong Chen*

Intangible Capital in Canada: Recent Trends and its Contribution to Economic and Labour Productivity Growth, Ryan Macdonald* and Wulong Gu
A Two-Step Approach for Identifying the Optimal Innovation Policy Direction, Panagiotis Tziogkidis*, Dionisis Philippas, and Alexandros Leontitis

Measures of Innovation: Patent Statistics and Intangible Investments, Danny Leung* and Wulong Gu

Environmental Efficiency – SB 308
Chair: Sebastian Riera

Environmental and Technical Efficiency in Spanish Ports, Beatriz Tovar and Alan Wall*

Measuring Efficiency when Producing Intended Outputs and Generating Unintended Ones, Finn R. Førsund*

Environmental Efficiency Measurement: The Case of Small Holder Rubber Production in Sumatra, Indonesia, Bernhard Dalheimer* and Bernhard Brümmer

Environmental Efficiency of Grapevine Production in Arid Argentina, Sebastian Riera* and Bernhard Brümmer

Banking 2 – AGB 331
Chair: Diego Restropo-Tobon

Market Power and Efficiency in Banking: The Case of USA and Canada, Salah U-Din*, David Tripe, and Humayun Kabir

Credit Ratings and Cost Efficiency: Russian Banks, Irina Ipatova and Anatoly Peresetsky*

Geography, Bank Business Strategies, and Efficiency, Diego Restropo-Tobon*, Subal C. Kumbhakar, and Christopher F. Parmeter

Directional Distance – AGB 431
Chair: Felipe de Figueiredo Silva

How Important are Directions in Directional Distance Function Efficiency Measures? Saleem Shaik* and Joseph Atwood

Does Hospital Efficiency and Productivity Depend on Hospital Type? Gary Ferrier, Hervé Leleu, Vivian Valdmanis, and Michael Vardanyan*

Commodity Misallocation in Indian Agriculture: Revenue Potential from Productive Inefficiency, Flavius Badau* and Nicholas Rada
Land Use in the Brazilian Amazon: The Opportunity Cost of Preserving the Forest, Felipe de Figueiredo Silva*, Richard Perrin, and Lilyan Fulginiti

6:00pm-10:00pm: Gala Dinner – Rusty Pelican
Friday June 15th.

8:00am-9:00am: Arrival and Continental Breakfast
8:00am-12:00pm: Registration

9:00am-10:30am: Parallel Sessions VI

**DEA Methods – SB 208**
Chair: Joseph Atwood

*Inference in Dynamic, Nonparametric Models of Production: A Central Limit Theorem for Malmquist Indices*, Alois Kniep, Leopold Simar, Paul Wilson*


*Enhancements in Implementing Sub-Sample Bootstrapping in DEA and Quantile DEA Applications*, Joseph Atwood*

**SFA Methods 2– SB 302**
Chair: Alexander Stead

*The Comparison of Stochastic Frontier Analysis with Panel Data Models*, Anbes Kidane*

*Impact Evaluation of Alternative Irrigation Technology in Crete: Correcting for Selectivity Bias*, Maria Vrachioli*, Spiro Stefanou, and Vangelis Tzouvelekas

*Stochastic Frontier Analysis with Missing Data*, Alexander Stead* and Phill Wheat

**Firm Productivity – SB 308**
Chair: Massimo Del Gatto

*R&D and Firm Productivity Performance*, Michael Willox*

*Firm Productivity, Technological Heterogeneity and Endogenous Exports*, Emir Malikov*

*Technology-Specific Production Functions*, Michele Battisti, Filippo Belloc, and Massimo Del Gatto*

**Corporate Social Responsibility – AGB 331**
Chair: Magdalena Kapelko
A Longitudinal Analysis of the Social Performance of Mining Firms Using Composite Indicators and the Malmquist Index, Ana Camanho*, Renata Oliveira, and Andreia Zanella

Dynamic Inefficiency Under By-production Framework and Determinants Influencing Corporate Responsibility Specific Inefficiency, Tadesse Getacher Engida*, Rao Xudong, and Alfonso Oude Lansink

Corporate Social Responsibility and Operational Inefficiency: A Dynamic Approach, Encarna Guillamon-Saorin, Magdalena Kapelko*, and Spiro Stefanou

SFA Applications – AGB 431
Chair: Jorge Pires

Measuring Inventory Turnover Efficiency in Small & Medium-sized Retail Firms, Jørgen Breivik*, Sverre Braathen Thyholdt, and Øystein Myrland

Allocative Inefficiency under Heterogeneous Technology in Bolivian Agriculture, Travis McArthur*

Cost-Efficiency of Brazilian Water Distribution and Sewage Collection Services: Some Recent Evidence, Jorge Pires*, Fernando Garcia, and Ana Magnabosco

10:30am-11:00am: Coffee Break

11:00am-12:30pm: Plenary Session IV – Topics on Data Envelopment Analysis – Storer Auditorium
Chair: John Ruggiero

Large-Scale DEA Applications for Policy Making in Agriculture, Mette Asmild

Efficiency Driven System Design, Konstantinos Triantis

12:30pm-2:00pm: Lunch

2:00pm-4:00pm: Parallel Sessions VII

Productivity – SB 208
Chair: Jose Zofio

Total Factor Productivity Change Based on Partial Productivities: An Application to the Measurement of Input-Specific Productivity Change, Bernhard Mahlberg*, Juan Aparicio, and Jesús Pastor
A Half-Century of Stagnation: Labour Productivity in Ontario’s Gold Mining Industry, Karl Skogstad* and Robert Petrunia

Industry Level Value Added and Productivity Decompositions, Kevin Fox, Erwin Diewert*, and Shipei Zeng

A Total Factor Productivity Toolbox for MATLAB, Bert M. Balk, Javier Barbero, and Jose Zofio*

Agriculture 2 – SB 302
Chair: Saleem Shaik

Testing the Farm Size and Productivity in Nicaragua: A Non-parametric Analysis, Alexandre de Almeida* and Boris Bravo-Ureta

The Scope for Improvement Among Norwegian Crop Farms Accounting for Farm Management and Socio-economic Factors: A Stochastic Frontier Analysis, Habtamu Alem*, Gudbrand Lien, and J. Brian Hardaker

Directional Distance Function Technical Efficiency of Chili Production in Thailand, Wirat Krasachat* and Suthathip Yaisawarng

Does Variability in Traditional (Title I) and Crop Insurance (Title X) Programs Affect Efficiency and Productivity? Saleem Shaik*

Banking 3 – SB 308
Chair: Ana Lozano-Vivas

Good and Bad Outputs in Bank Performance Modelling: A Relational Network DEA Approach, Stavros Kourtzidis*, Roman Matousek, and Nickolaos Tzeremes

Non-Standard Profit Efficiency in Banking: A Copula Approach, Vivian Cruz Castaneda, Diego Restrepo Tobon*, and Jim Sanchez Gonzalez

Evaluating the Performance of Indian Domestic Banks Through the Lens of Pareto-Koopmans Efficiency, Karan Khati*

Does Bank Market Value Depend on Banking Performance and Capital Structure? Claudia Curi and Ana Lozano-Vivas*

Italy – AGB 331
Chair: Camilla Mastromarco
Does Migrant Labor Inflate Productivity of Farmlands in Southern Italy? Marica Valente*

Local Governments’ Efficiency and its Heterogeneity - Empirical Evidence From a Panel Stochastic Frontier Analysis of Italian Municipalities 2010-2015, Tommaso Agasisti* and Francesco Porcelli

Just(ice) in Steady State, Angelo Zago* and Antonio Peyrache

Predicting Recessions in Italy: A Nonparametric Discrete Choice Models for Time Series, Camilla Mastromarco*, Leopold Simar, and Valentin Zelenyuk

China – AGB 431
Chair: Zhezhi Hou

Green Growth and Structural Change in Chinese Agricultural Sector During 1997-2014, Zhiyang Shen, Tomas Balezentis*, Xueli Chen, and Vivian Valdmanis

Marginal Abatement Cost Curve of CO2 Emissions in China’s Power Industry: An Engineering and Economic Combined Approach, Yujiao Xian* and Ke Wang

Productivity, Markup and Price Dispersion: Evidence from China, Shunan Zhao*, Subal Kumbhakar, and Bing Qian

Productivity of Chinese Manufacturing Firms: A Semiparametric Smooth Coefficient Model with Agglomeration Effect, Zhezhi Hou*, Man Jin, and Subal C. Kumbhakar

4:00pm-4:30pm: Coffee Break

4:30pm-5:00pm: Closing Remarks – Storer Auditorium