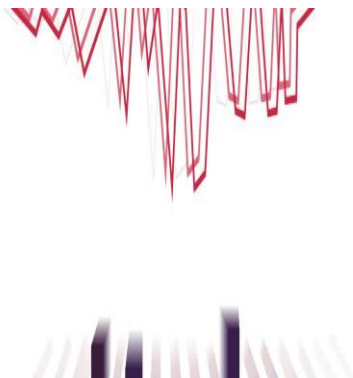


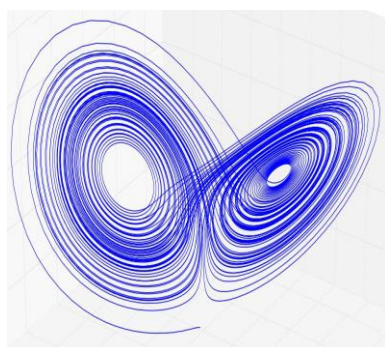
**7<sup>th</sup> International Workshop on “Financial Markets and  
Nonlinear Dynamics” (FMND), 1-2 June 2023, Paris (France)**

International Association for  
**APPLIED ECONOMETRICS**



UNIVERSITY  
SCHOOL  
OF MANAGEMENT

**The Society for Nonlinear Dynamics and Econometrics**



Institute for Nonlinear Dynamical Inference

INDI

affi  
french finance  
association

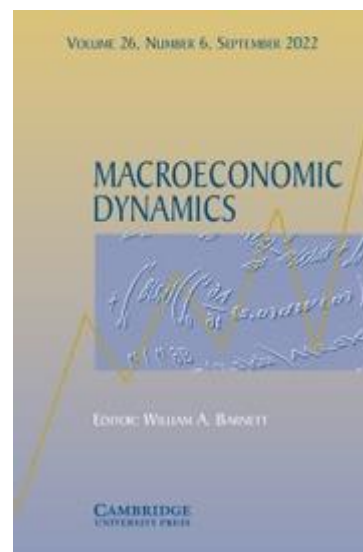
**Université  
de Lille**

**LUMEN**  
Lille University Management – ULR 4999

**amse**  
école d'économie d'aix-marseille  
aix-marseille school of economics

# 7<sup>th</sup> International Workshop on “Financial Markets and Nonlinear Dynamics” (FMND), 1-2 June 2023, Paris (France)

With the collaboration of the **International Association for Applied Econometrics (IAAE)**, the **Society for Nonlinear Dynamics and Econometrics (SNDE)**, the **Institute for Nonlinear Dynamical Inference (INDI)**, the **French Finance Association (AFFI)**, the **IAE Lille University School of Management (LUMEN)**, **Aix Marseille School of Economics** and **these Journals**:



**7<sup>th</sup> International Workshop on “Financial Markets and  
Nonlinear Dynamics” (FMND), 1-2 June 2023, Paris (France)**

**Keynote Speakers**

**Prof. John Y. CAMPBELL** (Harvard University, the USA)  
**Prof. Cheng HSIAO** (University of South California, the USA)  
**Prof. Nour MEDDAHI** (Toulouse School of Economics, France)

**Distinguished Speakers**

**Prof. William A. BARNETT** (University of Kansas, the USA)  
**Prof. Timo TERÄSVIRTA** (Aarhus University, Denmark)

**Chairs**

**Prof. Gilles DUFRENOT** (Sciences Po Aix, France)  
**Prof. Fredj JAWADI** (University of Lille, France)

**Co-sponsors:**

**International Association for Applied Econometrics (IAAE)**  
**The Society for Nonlinear Dynamics and Econometrics**  
**IAE Lille School of Management -LUMEN**

## Workshop Address

The 7th FMND Workshop will be organized in Paris in the Building of “Chambre de Commerce et d'Industrie de Paris CCIP”.

**Address:** 2 place Bourse, 75002 Paris.

**Metro:** Bourse

**Bourse** is a station of line 3 of the Paris metro, located in the 2nd arrondissement of Paris.

For more details, please see this link: <https://fr.mappy.com/poi/5d8bfa5754c4c06509f7af0e>

# General Workshop Program

**Day 1: June 1<sup>st</sup>, 2023**

**08:15 AM – 8:45 AM:** Reception

**08:45 AM -09:00 AM** Workshop Welcome by the Co-chairs (Room Yvonne Foinant):

**PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France) and **PROF. Fredj Jawadi** (University of Lille, France)

**09:00 AM – 10:00 AM** Plenary Session 1 Room Yvonne Foinant

**Keynote Speaker 1:** Prof. Cheng HSIAO (University of South California, the USA)

**Moderator:** PROF. Gilles Dufrénot (Aix-Marseille School of Economics, France)

**10:00 AM – 11:00 AM** Plenary Session 2 Room Yvonne Foinant

**Keynote Speaker 2:** Prof. John Y. CAMPBELL (Harvard University, the USA)

**Moderator:** PROF. Fredj Jawadi (University of Lille, France)

**11:00 AM – 11:15 AM** Coffee Break Room Legentil

**11:15 AM – 12:45 PM** Parallel Sessions 1 – 3 (Room Yvonne Foinant, Room Condorcet, Room 131)

**SESSION 1: EMPIRICAL FINANCE 1, ROOM YVONNE FOINANT**

**CHAIRMAN:** PROF. Cathy Ning (Toronto Metropolitan University, Canada)

**SESSION 2: EMPIRICAL FINANCE 2, ROOM CONDORCET**

**CHAIRMAN:** PROF. Philippe Goulet Coulombe (Université du Québec, Canada)

**SESSION 3: BUBBLES & VOLATILITY MODELING, ROOM 131**

**CHAIRMAN:** PROF. Ruijun Bu (Management School, University of Liverpool, The UK)

**12:45 PM – 02:00 PM**

**Lunch**

**02:00 PM – 03:30 PM** Parallel Sessions 4 - 6 (Room Yvonne Foinant, Room Condorcet, Room 131)

**SESSION 4: NONLINEAR TIME SERIES, ROOM YVONNE FOINANT**

**CHAIRMAN: PROF. Timo Teräsvirta** (Aarhus BSS –Aarhus University, Denmark & C.A.S.E., Humboldt-University, Germany)

**SESSION 5: CENTRAL BANKING & EXCHANGE RATE DYNAMICS, ROOM CONDORCET**

**CHAIRMAN: PROF. Margarita Rubio** (University of Nottingham, The UK)

**SESSION 6: BANKING & MARKET REGULATION, ROOM 131**

**CHAIRMAN: PROF. Camilo Granados** (University of Texas at Dallas, The USA)

**03:30 PM – 3.45 PM** Coffee Break Room Legentil

**03:45 PM – 05:15 PM** Parallel Sessions 7 -9 (Room Yvonne Foinant, Room Condorcet, Room 131)

**SESSION 7: ENERGY ECONOMICS & FINANCE, ROOM CONDORCET**

**CHAIRMAN: PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France)

**SESSION 8: FINANCIAL ECONOMETRICS, YVONNE FOINANT**

**CHAIRMAN: PROF. Silvio Contessi** (Monash Business School, Australia)

**SESSION 9: QUANTITATIVE FINANCE, ROOM 131**

**CHAIRMAN: PROF. Willi Semmler** (New School for Social Research, The USA)

**05:15 PM – 06:15 PM** PLENARY SESSION 3 ROOM YVONNE FOINANT

**Keynote Speaker 3: Prof. Nour MEDDAHI** (Toulouse School of Economics, France)

**Moderator: PROF. Fredj Jawadi** (University of Lille, France)

**7:15 PM** Visit to the Orsay Museum  
**9:00 PM** Dinner

## Day 2: June, 2<sup>nd</sup>, 2023

**08:30 AM – 10:00 AM**    **Parallel Sessions 10 – 12 (Room Vitrail, Room Condorcet, Room 131)**

### **SESSION 10: APPLIED ECONOMETRICS, ROOM CONDORCET**

**CHAIRMAN: PROF. Panagiotis Koutroumpis** (University of Sussex Business School, The UK)

### **SESSION 11: FINANCIAL MARKETS DYNAMICS, ROOM VITRAIL**

**CHAIRMAN: PROF. Ricardo M. Sousa** (University of Minho & LSE, Portugal)

### **SESSION 12: NONLINEAR MACROECONOMIC DYNAMICS, Room 131**

**CHAIRMAN: PROF. Robert L. Czudaj** (Technical University of Freiberg, Germany)

**10:00 AM – 10:30 AM**    **Coffee Break**    **Room Legentil**

**10:30 AM – 12:30 PM** **Parallel Sessions 13 – 15 (Room Vitrail, Room Condorcet, Room 131)**

### **SESSION 13: BEHAVIORAL ECONOMICS & FINANCE, Room Vitrail**

**CHAIRMAN: PROF. Jacek Suda** (SGH- Warsaw School of Economics, FAME|GRAPE, Poland)

### **SESSION 14: INFLATION AND CENTRAL BANKING, ROOM CONDORCET**

**CHAIRMAN: PROF. Constantin Mellios** (University Paris 1 Pantheon-Sorbonne, France)

### **SESSION 15: APPLIED FINANCIAL ECONOMICS, ROOM 131**

**CHAIRMAN: PROF. Szilard Benk** (Corvinus University Budapest, Hungary)

**12:30 PM – 02:00 PM**    **Lunch**

**02:00 PM – 03:30 PM** **Parallel Sessions 16– 18 (Room Vitrail, Room Condorcet, Room 131)**

### **SESSION 16: PHD STUDENT SESSION 1, Room Condorcet**

**CHAIRMAN: PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France)

**SESSION 17: PHD STUDENT SESSION 2, Room Vitrail**

**CHAIRMAN: PROF. Fredj Jawadi** (IAE Lille University School of Management, France)

**SESSION 18: PHD STUDENT SESSION 3, Room 131**

**CHAIRMAN: PROF. Ibrahim Tahri** (Potsdam Institute for Climate Impact Research, Germany)

**03:30 PM - 03:45 PM Coffee Break Room Legentil**

**03:45 PM – 05:45 PM DISTINGUISHED SPEAKERS (Room Vitrail)**

**3:45 PM – 4:45 PM: Distinguished Speaker 1: PROF. Timo Teräsvirta** (Aarhus University, Denmark)

**4:45 PM – 5:45 PM: Distinguished Speaker 2: PROF. William Barnett** (University of Kansas, the USA)

**05:45 PM – 06:45 PM MEETING WITH EDITORS Room Vitrail**

**Moderator: PROF. Fredj Jawadi** (IAE Lille University School of Management, France)

**06:45 PM Information about Special Issues and Workshop Closing (Room Vitrail)**

**PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France) and **PROF. Fredj Jawadi** (IAE Lille University School of Management, France)



# Detailed Workshop Program

**Day 1: June 1<sup>st</sup>, 2023**

**08:15 AM – 8:45 AM:** Reception

**08:45 AM -09:00 AM** Workshop Welcome by the Co-chairs (Room Yvonne Foinant):

**PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France) and **PROF. Fredj Jawadi** (University of Lille, France)

**09:00 AM – 10:00 AM** Plenary Session 1 Room Yvonne Foinant

**Keynote Speaker 1:** **PROF. Cheng HSIAO** (University of South California, the USA)

**Moderator:** **PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France)

**Keynote Speaker 1: PROF. Cheng HSIAO** (University of South California, the USA)



**Cheng Hsiao** is Professor of economics at the University of Southern California. He has made significant contributions to theoretical and applied econometrics with focus on panel data, utility demand analysis, measurement of policy impacts, China's financial reform and infrastructural investment, etc. He has published more than 150 academic papers in prestigious international journals. His works have received more than 40,000 Google citations. Essays in honor of Cheng Hsiao have also been published in the *Journal of Econometrics*, *Econometrics Review* and *Advances in Econometrics* special issues and volumes. He is also the author of four editions of the classic *Analysis of Panel Data* book. He is an academicien of Academia Sinica, a Fellow of the Econometric Society, *Journal of Econometrics*, International Association for Applied Econometrics, and Modelling and Simulation Society of Australia and New Zealand.

**Lecture: “Statistical Inference for the Low Dimensional Parameters in the Presence of High-Dimensional Data: An Orthogonal Projection Approach”**

**Abstract**

We consider the estimation and statistical inference for low dimensional parameters for a regression model with covariates whose dimension increases with sample size. We suggest a computationally simple one stage orthogonal projection approach to estimate the low dimensional parameters under strict or approximate sparsity conditions. The orthogonal projection approach is simple to implement. It does not need to first implement machine learning/big data approach to select relevant covariates, hence avoids possible selection mistakes and complicated regularization bias issue commonly associated with the two stage estimation method. Inference for the low dimensional parameters is straightforward to derive whether the high dimensional function is linear or nonlinear. Monte Carlo simulations and empirical applications are also conducted to investigate the finite sample performance of the proposed estimator vs the double/debiased estimator of Belloni et al. (2014) and Chernozhukov et al. (2018).

**Keywords:** High Dimensional Model, Series Approximation, Machine Learning, Lasso, Orthogonal Projection. Sparsity.

JEL classification: C01, C21, C55.

**10:00 AM – 11:00 AM**      **Plenary Session 2**      **Room Yvonne Foinant**

**Keynote Speaker 2: PROF. John Y. CAMPBELL** (Harvard University, the USA)

**Moderator: PROF. Fredj Jawadi** (University of Lille, France)

**Keynote Speaker 2: PROF. John Y. CAMPBELL** (Harvard University, the USA)



**John Y. Campbell** is the Morton L. and Carole S. Olshan Professor of Economics at Harvard University, where he has taught since 1994.

Campbell has published over 100 articles on various aspects of finance and macroeconomics, including fixed-income securities, equity valuation, portfolio choice, and household finance. His books include *Financial Decisions and Markets: A Course in Asset Pricing* (Princeton University Press 2018), *The Squam Lake Report: Fixing the Financial System* (with the Squam Lake Group of financial economists, PUP 2010), *Strategic Asset Allocation: Portfolio Choice for Long-Term Investors* (with Luis Viceira, Oxford University Press 2002), and *The Econometrics of Financial Markets* (with Andrew Lo and Craig MacKinlay, PUP 1997).

Campbell delivered the Ely Lecture to the American Economic Association in 2016 and served as President of the American Finance Association in 2005. He is a Research Associate and former Director of the Program in Asset Pricing at the National Bureau of Economic Research, a Fellow of the Econometric Society and the American Academy of Arts and Sciences, a Corresponding Fellow of the British Academy and Honorary Fellow of Corpus Christi College, Oxford, and holds honorary doctorates from BI Norwegian Business School, the University of Maastricht, the University of Paris Dauphine, and Copenhagen Business School. Campbell is also a founding partner of Arrowstreet Capital, LP, a Boston-based quantitative asset management firm.

**Lecture: “What Drives Booms and Busts in Value?”**

**Abstract**

Value investing delivers volatile returns, with large drawdowns both in periods of strong stock market performance such as the technology boom of the late 1990s, and in stock market downturns such as the global financial crisis of 2008 and the Covid-19 pandemic of 2020. This paper interprets the returns to the standard value strategy through the lens of an intertemporal CAPM. In this model, the shocks that move value returns include shocks to the expected cash flows of the aggregate stock market, shocks to the discount rates applied to those cash flows, and shocks to the variance of aggregate market returns. We document that these three shocks explain a large fraction (about 50%) of the quarterly returns to value investing over the last 60 years. In addition, the paper distinguishes the intra-industry and inter-industry components of the value strategy, and finds that average returns, ICAPM risk exposures, and the explanatory power of ICAPM shocks for portfolio returns are higher for the intra-industry component. Finally, we develop a methodology to perform the ICAPM decomposition at the daily frequency, which helps us explain the daily fluctuations in value returns during the Covid-19 pandemic period. We find that the ICAPM helps to explain the return to intra-industry value during this period, whereas inter-industry value appears to be driven in large part by industry-specific earning shocks attributable to the pandemic.

**11:00 AM – 11:15 AM**      **Coffee Break**    **Room Legentil**

**11:15 AM – 12:45 PM** **Parallel Sessions 1 – 3 (Room Yvonne Foinant, Room Condorcet, Room 131)**

**SESSION 1: EMPIRICAL FINANCE 1, ROOM YVONNE FOINANT**

**CHAIRMAN: PROF. Cathy Ning** (Toronto Metropolitan University, Canada)

**Paper Title (ID):** Global and Regional Stock Market Spillovers during the COVID-19 Pandemic Context: An Asian Perspective

**Authors:** **Benjamin Keddad** (PSB - Paris School of Business, France), Takashi Matsuki (Osaka Gakuin University, Japan) and Kimiko Sugimoto (Konan University, Japan)

**Discussant:** **Cécile Bastidon** (Université de Toulon, LEAD & CAC-IXXI- Institut des Systèmes Complexes, France)

**Paper Title (ID):** COVID19 and the Sectoral Network Structure of US Stock Markets

**Authors:** **Cécile Bastidon** (Université de Toulon, LEAD & CAC-IXXI- Institut des Systèmes Complexes, France) and Fredj Jawadi (IAE Lille University School of Management, France)

**Discussant:** **Cathy Ning** (Toronto Metropolitan University, Canada)

**Paper Title (ID):** Extreme Comovements and Downside/Upside Risk Spillovers between Oil prices and Exchange rates (31)

**Authors:** **Cathy Ning** (Toronto Metropolitan University, Canada) and Dinghai Xu (University of Waterloo, Waterloo, Canada)

**Discussant:** **Benjamin Keddad** (PSB - Paris School of Business, France)

**SESSION 2: EMPIRICAL FINANCE 2, ROOM CONDORCET**

**CHAIRMAN: PROF. Philippe Goulet Coulombe** (Université du Québec, Canada)

**Paper Title (ID):** Parallel Computing on Option Pricing Models Calibration Using High-Frequency Data (50)

**Authors:** **António A. F. Santos** (University of Coimbra, CeBER, Faculty of Economics, Portugal)

**Discussant:** **Michael Donadelli** (University of Brescia, Italy)

**Paper Title (ID):** Economic and Financial Integration: Risk Sharing's Friends or Foes? (14)

**Authors:** **Michael Donadelli** (University of Brescia, Italy)

**Discussant:** **Philippe Goulet Coulombe** (Université du Québec, Canada)

**Paper Title (ID):** Maximally Machine Learnable Portfolios (65)

**Authors:** **Philippe Goulet Coulombe** (Université du Québec à Montréal, Canada) and Maximilian Göbel (Bocconi University, Italy)

**Discussant:** **António A. F. Santos** (University of Coimbra, CeBER, Faculty of Economics, Portugal)

### **SESSION 3: BUBBLES & VOLATILITY MODELING, ROOM 131**

**CHAIRMAN: PROF. Ruijun Bu** (Management School, University of Liverpool, The UK)

**Paper Title (ID):** Improving the Accuracy of Bubble Date Estimators under Time-Varying Volatility (42)

**Authors:** Eiji Kurozumi (Hitotsubashi University, Japan) and **Anton Skrobotov** (Russian Presidential Academy of National Economy and Public Administration, Russia)

**Discussant:** **Erhan Uluceviz** (Gebze Technical University, Turkey)

**Paper Title (ID):** Electricity Consumption Patterns and Price Volatility in Turkey: A Wavelet Analysis (48)

**Authors:** **Erhan Uluceviz** (Gebze Technical University, Turkey), Harald Schmidbauer (Shanxi University of Finance and Economics, China) and Angi Rösch (FOM University of Applied Sciences, Germany)

**Discussant:** **Ruijun Bu** (Management School, University of Liverpool, The UK)

**Paper Title (ID):** Nonparametric Estimation of Large Spot Volatility Matrices for High-Frequency Financial Data (8)

**Authors:** **Ruijun Bu** (Management School, University of Liverpool, The UK), Degui Li (University of Cambridge, The UK), Oliver Linton (University of Cambridge, The UK) and Hanchao Wang (Shandong University, China)

**Discussant:** **Anton Skrobotov** (Russian Presidential Academy of National Economy and Public Administration, Russia)

**12:45 PM – 02:00 PM**

**Lunch**

**02:00 PM – 03:30 PM** Parallel Sessions 4 - 6 (Room Yvonne Foinant, Room Condorcet, Room 131)

### **SESSION 4: NONLINEAR TIME SERIES, ROOM YVONNE FOINANT**

**CHAIRMAN: PROF. Timo Teräsvirta** (Aarhus BSS – Aarhus University, Denmark & C.A.S.E., Humboldt-University, Germany)

**Paper Title (ID):** Introducing *spaneltyp*: a Code to Estimating State-Space Time Varying Parameter Models in Panels: An Application to Okun's Law (74)

**Authors:** Mariam Camarero (University Jaume I, Spain), **Juan Sapena** (Catholic University of Valencia, Spain) and Cecilio Tamarit (University of Valencia, Spain)

**Discussant:** **Yuyi Li** (University of Liverpool, The UK)

**Paper Title (ID):** A Latent Factor Driven Copula-Based Endogenous Regime Switching Model (12)

**Authors:** Ruijun Bu (Management School, University of Liverpool, The UK), Jie Cheng (Keele University, the UK), Abdoukarim Idi Cheffou (ISG International Business School, France), Fredj Jawadi (IAE Lille University School of Management), **Yuyi Li** (University of Liverpool, The UK)

**Discussant:** **Rim Chérif** (HEC Montréal & The American University in Cairo, Egypt)

**Paper Title (ID):** Quasi-Maximum Likelihood for Estimating Structural Models

**Authors:** Malek Ben Abdellatif (ESLSCA University Egypt), Hatem Ben Ameur (HEC Montréal, Canada), **Rim Chérif** (HEC Montréal & The American University in Cairo, Egypt) and Tarek Fakfakh (FSEG Sfax, Tunisia)

**Discussant:** **Juan Sapena** (Catholic University of Valencia, Spain)

## **SESSION 5: CENTRAL BANKING & EXCHANGE RATE DYNAMICS, ROOM CONDORCET**

**CHAIRMAN: PROF. Margarita Rubio** (University of Nottingham, The UK)

**Paper Title (ID):** Understanding the Gains from Wage Flexibility in a Currency Union: The Fiscal Policy Connection (4)

**Authors:** **Eiji Okano** (Nagoya City University, Japan)

**Discussant:** **Hyeonwoo Kim** (Auburn University, The USA)

**Paper Title (ID):** Superior Predictability of American Factors of the Won/Dollar Real Exchange Rate (13)

**Authors:** Sarthak Behera (Centre College, The USA), **Hyeonwoo Kim** (Auburn University, The USA) and Soohyon Kim (Chonnam National University, Korea)

**Discussant:** **Margarita Rubio** (University of Nottingham, The UK)

**Paper Title (ID):** Fiscal and Macprudential Policies in a Monetary Union (75)

**Authors:** José E Boscá (University of Valencia and Fedea, Spain), Javier Ferri (University of Valencia and Fedea, Spain) and **Margarita Rubio** (University of Nottingham, The UK)

**Discussant:** **Eiji Okano** (Nagoya City University, Japan)

## **SESSION 6: BANKING & MARKET REGULATION, ROOM 131**

**CHAIRMAN: PROF. Camilo Granados** (University of Texas at Dallas, The USA)

**Paper Title (ID):** Prediction of Robo-Advisory Acceptance in Banking Services using Tree-Based Algorithms (72)

**Authors:** **Witold Orzeszko** (Nicolaus Copernicus University, Poland) and Dariusz Piotrowski (Nicolaus Copernicus University, Poland)

**Discussant:** **Jérémy Pépy** (University of Lorraine & University of Strasbourg)

**Paper Title (ID):** Does One Rule Fit All? Banking Regulation in Europe (16)

**Authors:** Michaël Goujona (University of Clermont Auvergne, France), **Jérémy Pépy** (University of Lorraine & University of Strasbourg), and Benjamin Williams-Rambaud (University of Clermont Auvergne, France)

**Discussant:** **Camilo Granados** (University of Texas at Dallas, The USA)

**Paper Title (ID):** Macprudential Policy Coordination in Open Economies: A Multicountry Framework (5)

**Authors:** **Camilo Granados** (University of Texas at Dallas, The USA)

**Discussant:** **Witold Orzeszko** (Nicolaus Copernicus University, Poland)



**03:30 PM – 3.45 PM**      **Coffee Break**      **Room Legentil**

**03:45 PM – 05:15 PM** **Parallel Sessions 7 -9 (Room Yvonne Foinant, Room Condorcet, Room 131)**

**SESSION 7: ENERGY ECONOMICS & FINANCE, ROOM CONDORCET**

**CHAIRMAN: PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France)

**Paper Title (ID):** Commodity Price Shocks, Supply Chain Disruptions and Inflation Rates: Evidence for Four Big Economies (32)

**Authors:** Elena Diaz (Universidad Pontificia Comillas, Spain), **Juncal Cuñado** (University of Navarra, Spain) and Fernando Perez de Gracia (University of Navarra, Spain)

**Discussant: Petre Caraiani** (Bucharest University of Economic Studies, Romania)

**Paper Title (ID):** Oil News Shocks, Inflation Expectations and Social Connectedness (51)

**Authors: Petre Caraiani** (Bucharest University of Economic Studies, Romania)

**Discussant: Juncal Cuñado** (University of Navarra, Spain)

**Paper Title (ID):** Stock Market Volatility and Commodity Prices (33)

**Authors:** Wensheng Kang (California Polytechnic State University, the USA), **Fernando Perez de Gracia** (Universidad de Navarra, Spain) and Ronald A. Ratti (University of Missouri, the USA)

**Discussant: Gilles Dufrénot** (Aix-Marseille School of Economics, France)

**SESSION 8: FINANCIAL ECONOMETRICS, YVONNE FOINANT**

**CHAIRMAN: PROF. Silvio Contessi** (Monash Business School, Australia)

**Paper Title (ID):** Monetary Policy Transmission in India – A Nonlinear Approach (49)

**Authors: Aditi Chaubal** (Indian Institute of Technology Bombay, India) Aditi Rohatgi (Indian Institute of Technology Bombay, India)

**Discussant: Silvio Contessi** (Monash Business School, Australia)

**Paper Title (ID):** Regime-Specific Exchange Rate Predictability and the Role of Uncertainty (59)

**Authors:** Joscha Beckmann (University of Hagen, Germany), **Marco Kerkemeier** (University of Hagen, Germany) and Robinson Kruse-Becher (University of Hagen, Germany)

**Discussant: Aditi Chaubal** (Indian Institute of Technology Bombay, India)

**Paper Title (ID):** The Dynamic Dirichlet Process Mixture Model: An Application to the Banking Sector in Australia (77)

**Authors: Silvio Contessi** (Monash Business School, Australia), Mei Dong ((Monash Business School, Australia), Yong Song (University of Melbourne, Australia) and Xuan Vu (University of Melbourne & Vietnam National University of Agriculture, Australia)

**Discussant: Marco Kerkemeier** (University of Hagen, Germany)

## **SESSION 9: QUANTITATIVE FINANCE, ROOM 131**

**CHAIRMAN: PROF. Willi Semmler** (New School for Social Research, The USA)

**Paper Title (ID):** Reconciling TEV and VaR in Active Portfolio Management: A New Frontier (55)

**Authors:** Riccardo Lucchetti (Università Politecnica delle Marche, Italy), Mihaela Nicolau (Danubius University, Romania), **Giulio Palomba** (Università Politecnica delle Marche, Italy) and Luca Ricchetti (Università di Macerata, Italy)

**Discussant:** **Jiri Kukacka** (Czech Academy of Sciences & Institute of Information Theory and Automation, Czech Republic)

**Paper Title (ID):** Fundamental and Speculative Components of the Cryptocurrency Pricing Dynamics (54)

**Authors:** **Jiri Kukacka** (Czech Academy of Sciences & Institute of Information Theory and Automation, Czech Republic) and Ladislav Kristoufek (Czech Academy of Sciences & Institute of Information Theory and Automation, Czech Republic)

**Discussant:** **Willi Semmler** (New School for Social Research, The USA)

**Paper Title (ID):** Green Transition, Investment Horizon, and Dynamic Portfolio Decisions (18)

**Authors:** **Willi Semmler** (New School for Social Research, The USA), Kai Lessmann (Potsdam Institute for Climate Impact Research, Germany), Ibrahim Tahri (Potsdam Institute for Climate Impact Research, Germany) and Joao Paulo Braga (New School for Social Research, The USA)

**Discussant:** **Giulio Palomba** (Università Politecnica delle Marche, Italy)

## **05:15 PM – 06:15 PM      PLENARY SESSION 3      ROOM YVONNE FOINANT**

**Keynote Speaker 3: PROF. Nour MEDDAHI** (Toulouse School of Economics, France)

**Moderator: PROF. Fredj Jawadi** (University of Lille, France)



**Keynote Speaker 3: PROF. Nour MEDDAHI** (Toulouse School of Economics, France)



**Nour Meddahi** is Professor of Economics at the Toulouse School of Economics (TSE). He is specialized in financial econometrics, econometrics, time series, and risk management. His work focuses on the measurement, modeling, forecasting and valuation of volatility, as well as on high-frequency data statistics and risk management. He has published his work in *Econometrica*, *Review of Financial Studies*, *Journal of the American Statistical Association*, *Journal of Econometrics*, *Econometric Theory*, and *the Journal of Applied Econometrics*. He is an elected Fellow of the Econometric Society, the International Association for Applied Econometrics, and the Society for Financial Econometrics. He holds an engineering degree from ENSAE (Economics and Statistics), a Master degree from PSE (Economics), and a Ph.D. from TSE. Prior to joining TSE, he was Assistant and Associate Professor of Economics at the University of Montreal and Reader in Finance at Imperial College Business School.

**Lecture: “Forecast Comparison Tests Under Fat Tails”**

**Abstract**

Forecast comparison tests are widely implemented to compare the performances of two or more competing forecasts. The validity of the tests often relies on the central limit theorem or by the stationary bootstrap under regularity conditions, including the one where the second moment of loss differences is bounded. However, when the loss difference is fat tailed and the required moment condition is violated, the validity of the tests relying on the Gaussian asymptotics is questionable. We show that the conventional testing procedure may yield severe size distortions under the presence of fat tails. The distortion is large especially when the tail of the marginal distribution of the loss difference is heavy and asymmetric. As an alternative approach, we propose to use a subsampling method that is robust to fat tails. In the empirical study, we consider several variance forecasts and analyze their tail behaviors and predictive abilities. Examining several tail index estimators, we find that the second moment of the loss difference is likely to be unbounded especially when the popular squared error loss is used. Moreover, our robust forecast comparison test provides different conclusions in some cases compared to the existing variance forecast literature.

**7:15 PM**  
**9:00 PM**

**Visit to the Orsay Museum<sup>1</sup>**  
**Dinner**

---

<sup>1</sup> Please, note that the visit and dinner are open only for the authors who registered for the dinner.

## Day 2: June, 2<sup>nd</sup>, 2023

**08:30 AM – 10:00 AM**    Parallel Sessions 10 – 12 (Room Vitrail, Room Condorcet, Room 131)

### **SESSION 10: APPLIED ECONOMETRICS, ROOM CONDORCET**

**CHAIRMAN: PROF. Panagiotis Koutroumpis** (University of Sussex Business School, The UK)

**Paper Title (ID):** Modeling Systemic House Price Risk (53)

**Authors:** François-Michel Boire (HEC Montreal, Canada) and Simon Van Norden (HEC Montreal, Canada)

**Discussant:** Luca Agnello (University of Palermo, Italy)

**Paper Title (ID):** The Marginal Value of Sovereigns' Reputation (79)

**Authors:** Luca Agnello (University of Palermo, Italy), Vítor Castro (Loughborough University, The UK) and Ricardo M. Sousa (University of Minho & LSE, Portugal)

**Discussant:** Panagiotis Koutroumpis (University of Sussex Business School, The UK)

**Paper Title (ID):** Expansionary and Contractionary Fiscal Multipliers in the U.S (71)

**Authors:** George Kapetanios (King's College London, The UK), Panagiotis Koutroumpis (University of Sussex Business School, The UK), Christopher Tsoukis (Keele University, The UK) and Ekaterina Glebkina (Brunel University London, The UK)

**Discussant:** François-Michel Boire (HEC Montreal, Canada)

### **SESSION 11: FINANCIAL MARKETS DYNAMICS, ROOM VITRAIL**

**CHAIRMAN: PROF. Ricardo M. Sousa** (University of Minho & LSE, Portugal)

**Paper Title (ID):** A primer on the Covid-19 Effect on the Volatility Transmission of Global Financial Markets (67)

**Authors:** Sinem Derindere Koseoglu (Bursa Technical University, Turkey), Man Luo (Zhejiang University, China) and Andreas Tsopanakis (Cardiff Business School, The UK)

**Discussant:** Robinson Kruse-Becher (University of Hagen- Faculty of Business Administration and Economics, Germany)

**Paper Title (ID):** Robust Fixed-b Inference in the Presence of Time-Varying Volatility (63)

**Authors:** Matei Demetrescu (Institute for Business and Economic Statistics & TU Dortmund University, Germany), Christoph Hanck (Faculty of Economics and Business Administration & University of Duisburg-Essen, Germany) and Robinson Kruse-Becher (University of Hagen- Faculty of Business Administration and Economics, Germany)

**Discussant:** Ricardo M. Sousa (University of Minho & LSE, Portugal)

**Paper Title (ID):** The "Economic Value" of Law: Do Collective Action Clauses Reduce Sovereign Bond Restructuring Costs? (43)

**Authors:** Luca Agnello (University of Palermo, Italy), Vítor Castro (Loughborough University, The UK) and Ricardo M. Sousa (University of Minho & LSE, Portugal)

**Discussant:** Andreas Tsopanakis (Cardiff Business School, The UK)

## **SESSION 12: NONLINEAR MACROECONOMIC DYNAMICS, Room 131**

**CHAIRMAN: PROF. Robert L. Czudaj** (Technical University of Freiberg, Germany)

**Paper Title (ID):** Estimating the Output Gap After COVID: How To Address Unprecedented Macroeconomic Variations

**Authors:** Camilo Granados (University of Texas at Dallas, the USA) and **Daniel Parra-Amado** (Banco de la Republica, Columbia)

**Discussant: Kirill Shakhnov** (University of Surrey, The UK)

**Paper Title (ID):** Sovereign Debt Issuance and Selective Default (6)

**Authors:** Wojtek Paczos (Cardiff University and Polish Academy of Sciences, The UK) and **Kirill Shakhnov** (University of Surrey, The UK)

**Discussant: Robert L. Czudaj** (Technical University of Freiberg, Germany)

**Paper Title (ID):** Expectation Formation and the Phillips Curve Revisited (30)

**Authors:** **Robert L. Czudaj** (Technical University of Freiberg, Germany)

**Discussant: Daniel Parra-Amado** (Banco de la Republica, Columbia)

**10:00 AM – 10:30 AM**

**Coffee Break Room Legentil**

**10:30 AM – 12:30 PM Parallel Sessions 13 – 15 (Room Vitrail, Room Condorcet, Room 131)**

## **SESSION 13: BEHAVIORAL ECONOMICS & FINANCE, Room Vitrail**

**CHAIRMAN: PROF. Jacek Suda** (SGH- Warsaw School of Economics, FAME|GRAPE, Poland)

**Paper Title (ID):** Impact of Self-Learning based High-Frequency Traders on the Stock Market (80)

**Authors:** **Kirill Mansurov**, (Center of Econometrics and Business Analytics, & Saint Petersburg University, Russia), Alexander Semenov (University of Florida, the USA), Dmitry Grigoriev (Saint Petersburg University, Russia), Andrei Radionov (European University at St. Petersburg, Russia) and Rustam Ibragimov (Imperial College London, the UK)

**Discussant: Katarzyna Anna Nawrot** (Poznan University of Economics and Finance, Poland)

**Paper Title (ID):** Can Psychology Affect the Housing Business Cycles? (41)

**Authors:** Jae Ho Yoon (WGST, South Korea) **Katarzyna Anna Nawrot** (Poznan University of Economics and Finance, Poland)

**Discussant: Jacek Suda** (SGH- Warsaw School of Economics, FAME|GRAPE, Poland)

**Paper Title (ID):** When You Need Them, They Are Not There: Hedge Capacities of Cryptocurrencies Disappear At Downtrend Market (26)

**Authors:** **Mariya Gubareva** (ISEG-Lisbon School of Economics & Management, Portugal)

**Discussant: Fredj Jawadi** (IAE Lille University School of Management, France)

**Paper Title (ID):** The Dangers of Policy Experiments: Initial Beliefs Under Adaptive Learning (25)

**Authors:** Patrick A. Pintus (CNRS - InSHS and Aix-Marseille University, France), **Jacek Suda** (SGH- Warsaw School of Economics, FAME|GRAPE, Poland) and M. Burak Turgut (University of Warsaw, Poland)  
**Discussant:** **Kirill Mansurov**, (Center of Econometrics and Business Analytics, & Saint Petersburg University, Russia)

#### **SESSION 14: INFLATION AND CENTRAL BANKING, ROOM CONDORCET**

**CHAIRMAN: PROF. Constantin Mellios** (University Paris 1 Pantheon-Sorbonne, France)

**Paper Title (ID):** Monetary Policy Expectations and Economic Fluctuations at the Zero Lower Bound (76)

**Authors:** Rachel Doehr (Claremont McKenna College, The USA) and **Enrique Martínez-García** (Federal Reserve Bank of Dallas and Southern Methodist University, The USA)

**Discussant:** **Rubens Moura** (Bank of Mexico, Mexico)

**Paper Title (ID):** The COVID-19 Pandemic and the Term Structures of Interest Rates: The Case of Emerging Markets (56)

**Authors:** Bertrand Candelon (LFIN/LIDAM&Université Catholique de Louvain, Belgium) and **Rubens Moura** (Bank of Mexico, Mexico)

**Discussant:** **Constantin Mellios** (University Paris 1 Pantheon-Sorbonne, France)

**Paper Title (ID):** Is Monetary Policy a Source of Systematic Illiquidity? Evidence from the US Stock Market (70)

**Authors:** Hamza El Khalloufi (University Paris 1 Pantheon-Sorbonne, France) and **Constantin Mellios** (University Paris 1 Pantheon-Sorbonne, France)

**Discussant:** **Todd Prono** (Federal Reserve Board, The USA)

**Paper Title (ID):** When Errors Are Heavy-Tailed and Skewed: Two-Stage-Least-Squares Alternatives to Quasi-Maximum Likelihood Estimation of GARCH Models (28)

**Authors:** **Todd Prono** (Federal Reserve Board, The USA)

**Discussant:** **Enrique Martínez-García** (Federal Reserve Bank of Dallas and Southern Methodist University, The USA)

#### **SESSION 15: APPLIED FINANCIAL ECONOMICS, ROOM 131**

**CHAIRMAN: PROF. Szilard Benk** (Corvinus University Budapest, Hungary)

**Paper Title (ID):** Asymmetries in the Oil Market: Accounting for the Growing Role of China through Quantile Regressions (15)

**Authors:** Valérie Mignon (EconomiX-University of Paris Nanterre, France) and **Jamel Saadaoui** (BETA-University of Strasbourg, France)

**Discussant:** **Saker Sabkha** (Université de Bretagne Sud- Institut de management, France)

**Paper Title (ID):** Deep neural networks for Credit Default Swap Prediction (68)

**Authors:** **Saker Sabkha** (Université de Bretagne Sud- Institut de management, France), Sabine Mallek (ICN Business School, France) and Mikidadu Mohammed (Austin College, the USA)

**Discussant:** **Szilard Benk** (Corvinus University Budapest, Hungary)

**Paper Title (ID):** Identifying Money and Inflation Expectation Shocks on Real Oil Prices (34)

**Authors:** **Szilard Benk** (Corvinus University Budapest, Hungary) and Max Gillman (University of Missouri - St. Louis, The USA)

**Discussant: Jamel Saadaoui** (BETA-University of Strasbourg, France)

**Paper Title (ID):** Fiscal Space and Public Debt Limits: The Case of Algeria (78)

**Authors:** Abderrahim Chibi (Maghnia University Centre, Algeria), Sidi Mohamed Chekouri (Maghnia University Centre, Algeria) and **Mohamed Benbouziane** (Tlemcen University, Algeria)

**Discussant: Gilles Dufrénot** (Aix-Marseille University, France)

**12:30 PM – 02:00 PM**

**Lunch**

**02:00 PM – 03:30 PM** Parallel Sessions 16– 18 (Room Vitrail, Room Condorcet, Room 131)

**SESSION 16: PHD STUDENT SESSION 1, Room Condorcet**

**CHAIRMAN: PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France)

**Paper Title (ID):** Capturing International Influences in U.S. Monetary Policy through a NLP Approach (40)

**Authors:** Laurent Ferrara (Skema Business School, France) and **Nicolas de Roux** (QuantCube Technology & EconomiX-Université Paris Nanterre, France)

**Discussant: Oumaima Sahtout** (IAE Lille University School of Management, France)

**Paper Title (ID):** Measuring the Financial Inclusion Index in Developed, Developing and Emerging Countries (57)

**Authors: Oumaima Sahtout** (IAE Lille University School of Management, France) and Fredj Jawadi (IAE Lille University School of Management, France)

**Discussant: Alice Schwenninger** (Bank of France and EconomiX-University of Paris Nanterre, France)

**Paper Title (ID):** The Impact of the PEPP on the Corporate Commercial Paper Market (29)

**Authors:** Valère Fourel (Bank of France, France) and **Alice Schwenninger** (Bank of France and EconomiX-University of Paris Nanterre, France)

**Discussant: Nicolas de Roux** (QuantCube Technology & EconomiX-Université Paris Nanterre, France)

**Paper Title (ID):** Does ICT Access and Usage Reduce Growth Inefficiency in Sub-Saharan Africa? (73)

**Authors:** Désiré Avom (University of Yaoundé II-Soa, Cameroun), **Gilles Dufrénot** (Aix-Marseille University, France) and Sylvie Eyeffa (University of Yaoundé II-Soa, Cameroun)

**Discussant: Mohamed Benbouziane** (Tlemcen University, Algeria)

**SESSION 17: PHD STUDENT SESSION 2, Room Vitrail**

**CHAIRMAN: PROF. Fredj Jawadi** (IAE Lille University School of Management, France)

**Paper Title (ID):** Nonlinear Intraday Trading Invariance in the Russian Stock Market (9)

**Authors:** Tamara Teplova (National Research University Higher School of Economics, Russian Federation) and **Sergei Gurov** (National Research University Higher School of Economics, Russian Federation)

**Discussant: Pierre Fay** (IAE Lille University School of Management, France)

**Paper Title (ID):** On Empirical Challenges in Forecasting Market Betas in Crypto Markets

**Authors:** Jan Sila (Charles University, Czech Republic), Michael Mark (Ecole Polytechnique Fédérale de Lausanne, Switzerland) and Ladislav Kristoufek (Charles University, Czech Republic)

**Discussant: Sergei Gurov** (National Research University Higher School of Economics, Russian Federation)

**Paper Title (ID):** Can YouTube Sentiment News Forecast Bitcoin Returns? (45)

**Authors:** David Bourghelle (IAE Lille University School of Management, France), **Pierre Fay** (IAE Lille University School of Management, France) and Fredj Jawadi (IAE Lille University School of Management, France)

**Discussant: Jan Sila** (Charles University, Czech Republic)

### **SESSION 18: PHD STUDENT SESSION 3, Room 131**

**CHAIRMAN: PROF. Ibrahim Tahri** (Potsdam Institute for Climate Impact Research, Germany)

**Paper Title (ID):** US Equity Announcement Risk Premia (81)

**Authors:** Lukáš Petrásek (Institute of Economic Studies, Faculty of Social Sciences Charles University, Czech Republic)

**Discussant: Nour El Houda Benzarti** (Institute of Higher Commercial Studies of Sousse, Tunisia)

**Paper Title (ID):** Are Developed Islamic Equity Indices Immune from the COVID-19 pandemic? (37)

**Authors:** Nour El Houda Benzarti (Institute of Higher Commercial Studies of Sousse, Tunisia), Zouheir Mighri (Higher Institute of Finance and Taxation of Sousse, Tunisia) and Sami Ben Mim (Institute of Higher Commercial Studies of Sousse, Tunisia)

**Discussant: Lukáš Petrásek** (Institute of Economic Studies, Faculty of Social Sciences Charles University, Czech Republic)

**Paper Title (ID):** Sustainable Investment under Inflation and Interest Rates Risk (52)

**Authors:** Ibrahim Tahri (Potsdam Institute for Climate Impact Research, Germany)

**Discussant: Willi Semmler** (New School for Social Research, The USA)

**03:30 PM - 03:45 PM Coffee Break Room Legentil**

**03:45 PM – 05:45 PM DISTINGUISHED SPEAKERS (Room Vitrail)**



**3:45 PM – 4:45 PM: Distinguished Speaker 1: PROF. Timo Teräsvirta** (Aarhus University, Denmark)



**Timo Teräsvirta** is Professor Emeritus of Economics, Aarhus University. He is Visiting Scholar at the Centre for Applied Statistics and Economics (C.A.S.E), Humboldt-Universität zu Berlin. He received his DPolSc (Econometrics) from the University of Helsinki. He has been Professor of Statistics, University of Helsinki, 1976-1980, Research Fellow, Research Institute of the Finnish Economy, 1980-1989, Research Fellow, Norges Bank, 1993-1994, and Professor of Econometrics, Stockholm School of Economics, 1994-2006. He was Distinguished Senior Fellow at the Hanken School of Economics, Helsinki, 2001-2013, and Visiting Professor at the Queensland University of Technology, Brisbane, 2013-2016. Teräsvirta is elected member of the International Statistical Institute (since 1978), Societas Scientiarum Fennica, Helsinki (since 1978), and the Royal Swedish Academy of Sciences, Stockholm (since 2001). He is Journal of Applied Econometrics Distinguished Author, Fellow of *Journal of Econometrics*, Honorary Member of the Finnish Statistical Society, Fellow of the Society for Financial Econometrics, and Fellow of the International Institute of Forecasters. Teräsvirta was member of the Prize Committee for the Sveriges Riksbank Prize in Economic Sciences in memory of Alfred Nobel, 2002-2010.

He has co-authored two books on nonlinear econometrics (with Clive W.J. Granger and Dag Tjøstheim) and published a number of book chapters and articles in international journals. His research and teaching interests include nonlinear time series econometrics and volatility modelling.

### **Lecture: “Long Monthly European Temperature Series and the North Atlantic Oscillation”**

#### **Abstract**

In this presentation, the relationship between the surface air temperatures in 28 European cities and towns and the North Atlantic Oscillation (NAO) is modelled using the Vector Seasonal Shifting Mean and Covariance Autoregressive model, extended to contain exogenous variables. Central statistical and time series features of the model are discussed before moving on to discussing data and showing empirical results. The model also incorporates season-specific spatial correlations that are functions of latitudinal, longitudinal, and elevation differences of the various locations. The empirical results, based on long monthly time series, agree with previous ones in the literature in that the NAO is found to have its strongest effect on temperatures during winter months. The transition from the boreal winter to the summer is not monotonic, however. The strength of the error correlations of the model between locations is inversely related to the distance between the locations, with a slower decay in the east-west than north-south direction. Altitude differences also matter but only during the boreal winter half of the year.

**4:45 PM – 5:45 PM: Distinguished Speaker 2: PROF. William Barnett** (University of Kansas, the USA)



**William A. Barnett** is the Oswald Distinguished Professor of Macroeconomics at the University of Kansas, Director at the Center for Financial Stability in New York City, and Director of the Institute for Nonlinear Dynamical Inference. His MIT Press book, *Getting It Wrong*, won the American Publisher's Award for Professional and Scholarly Excellence (the PROSE Award), and his book with Nobel Laureate, Paul Samuelson, *Inside the Economist's Mind*, has been translated into seven languages. He is the originator of the Divisia Monetary Aggregates and "the Barnett critique." He has published widely on tests for nonlinear dynamics, chaos, and bifurcation and on financial aggregation and index number theory. He also is a major contributor to research on modeling consumer and producer behavior. He is Founder and First President of the Society for Economic Measurement, Founder and Editor of the Cambridge University Press journal, *Macroeconomic Dynamics*, and of the Emerald Press monograph series, *International Symposia in Economic Theory and Econometrics*.

He has received over 45 different awards and honors, is a Fellow of the American Statistical Association, Charter Fellow of the *Journal of Econometrics*, Charter Fellow of the Society for Economic Measurement, Fellow of the World Innovation Foundation, Fellow of the TANDO international policy institute, Fellow of the Johns Hopkins Institute for Applied Economics, and Honorary Professor at Henan University in China. He has authored over 200 articles published in professional journals and 41 books as author or editor. Special issues of the *Journal of Econometrics*, *Econometric Reviews*, and the *Journal of Financial Stability* have been published in his honor.

His degrees in engineering, finance, statistics, and economics are from the Massachusetts Institute of Technology (BS), University of California at Berkeley (MBA), and Carnegie Mellon University (MS, PhD). He was on the staff of the Federal Reserve Board in Washington, DC and was a full professor at the University of Texas at Austin and Washington University in St. Louis as well as having been a research associate at the University of Chicago and visiting professor at Johns Hopkins University and Duke University.

Before becoming an economist, he was one of the systems development engineers who developed the rocket engines for Apollo at Rocketdyne in Los Angeles. He is on the Research.com list of the "Top Economics and Finance Scientists in the World."



## Lecture: “Shilnikov Chaos”

### Abstract

In the physical sciences, mathematical chaos has proven to be very valuable. Much of that value is acquired from the geometry of the fractal (“strange”) attractor set into which the long run dynamics of the system are drawn. It has been shown by Takens that all of the information about the unknown system producing the solution paths is contained within the fractal geometry of the attractor set.

While tests for chaos have often detected chaos in economic data, the sample size limitation has hindered the ability to generate the geometry of the fractal attractor set. Without the ability to produce large numbers of replications from controlled experiments, applications of chaos have been constrained by the sample size problem. That problem has been especially troublesome in determining the usefulness of findings of completely generally chaos in economics without the ability to produce the fractal attractor set with small samples.

But in the physical sciences, a special case of chaos, Shilnikov chaos, has been found to fit a surprisingly large percentage of cases of observed chaos in nature. When conditioned upon a model, the Shilnikov criterion can not only be used to detect chaos but to produce the geometry of the fractal attractor set with small samples.

We have applied the Shilnikov criterion to new Keynesian models fitted to US and UK data. We find Shilnikov chaos, when the model exhibits sticky prices and the central bank policy follows an active Taylor feedback rule. Under those conditions, we find that the fractal attractor set’s clustering of points implies slow downward drift of interest rates towards the lower bound, consistent with that drift in recent decades in the US and the UK.

This can be interpreted as a liquidity trap phenomenon, produced by the existence of a chaotic attractor, and not by the influence of an unintended steady state or the Central Bank’s intentional choice of a steady state nominal interest rate at its lower bound. In addition, our finding of Shilnikov chaos can provide an alternative explanation for the controversial “loanable funds” over-saving theory, which seeks to explain why interest rates and, to a lesser extent inflation rates, had declined to low levels, such that the real rate of interest was below the marginal product of capital. Paradoxically, an active interest rate feedback policy can cause nominal interest rates, inflation rates, and real interest rates unintentionally to drift downwards within a Shilnikov attractor set.

Policy options to eliminate or control the chaotic dynamics are developed and found to imply that the Taylor rule is a myopic short run stabilization rule lacking a long run transversality condition. Control of the downward drift requires adoption of a second long run policy instrument to impose a terminal condition. Central Bank experimentation with alternative policies can be interpreted as search for such second instruments needed for use in parallel with the short run Taylor rule.

**05:45 PM – 06:45 PM    MEETING WITH EDITORS    Room Vitrail**

**PROF. William A. Barnett**, Editor of *Macroeconomic Dynamics*

**PROF. Cheng Hsiao**, Former Editor of the *Journal of Econometrics*

**PROF. Bruce Mizrach**, Editor of *Studies in Nonlinear Dynamics and Econometrics*

**PROF. Willi Semmler**, Associate Editor of Econometrics and Statistics & Editor of the Book series at Springer, Dynamic Modeling and Econometrics in Economics and Finance

**Moderator: PROF. Fredj Jawadi** (IAE Lille University School of Management, France)

**06:45 PM Information about Special Issues and Workshop Closing    (Room Vitrail)**

**PROF. Gilles Dufrénot** (Aix-Marseille School of Economics, France) and **PROF. Fredj Jawadi** (IAE Lille University School of Management, France)