### SoFiE Financial Econometrics Summer School "The Econometrics of Derivatives Markets"



### July 24 - July 28, 2017 Kellogg School of Management, Evanston, IL 2211 Campus Drive; Evanston, IL 60208

#### **Sponsors**

The Society for Financial Econometrics
The Kellogg School of Management
The Financial Institutions Center at Kellogg
CME Group
Chicago Board Options Exchange

The SoFiE Financial Econometrics Summer School in North America took place at the Kellogg School of Management, Northwestern University, from Monday July 24 through Friday July 28, 2017. Participants from over 50 institutions and 20 countries attended this year's conference. Topics that were covered:

- Introduction to High-Frequency Return Measures;
- Introduction to Continuous Time Asset Pricing;
- The Pricing of Smooth Payoffs with Applications to Return Variation Measures;
- Nonparametric Tail Risk Measures;
- Exploring Empirical Issues in Financial Economics via Corridor Volatility;
- Nonparametric Option-Based Estimation of Semimartingale Characteristics;
- Econometrics of Parametric Option Pricing Models under Alternative Asymptotic Settings;
- The Global Pricing of Tail Risk and the Equity Risk Premium;
- Numerical Option Pricing Techniques (including alternative Fourier Inversion Methods).

#### **Lecturers:**

Professor Torben G. Andersen (Kellogg School, Northwestern University) Professor Viktor Todorov (Kellogg School, Northwestern University) Nicola Fusari (Johns Hopkins University)

### **Guest Speakers:**

Bluford Putnam (CME Group) Kevin Davitt (CBOE)





























## Northwestern | Kellogg

# SoFiE Financial Econometrics Summer School "The Econometrics of Derivatives Markets" Kellogg School of Management, 2017

Monday, July 24, 2017 – Kellogg Global Hub, Room L110

**12:00 p.m. – 1:30 p.m**. Lunch and Registration

**1:30 p.m. – 4:45 p.m.** Afternoon Lectures, Torben Andersen and Viktor Todorov:

"The Econometrics of Financial Market Volatility: An Introduction to

High-Frequency Based Measures"

"Introductory Notes: Continuous- Time Asset Pricing, High

Frequency Risk Measures, and Changes of Measures and Pricing

Kernels"

**5:00 p.m. – 7:00 p.m.** Welcome Reception, Room 5101

Tuesday, July 25, 2017 – Kellogg Global Hub, Room L110

8:00 a.m. – 8:30 a.m. Breakfast

**8:30 a.m.** – **11:30 a.m.** Morning Lectures, Torben Andersen and Viktor Todorov:

"The Pricing of Smooth Payoffs with Applications of Return Variation"

"Tails, Fears and Risk Premia"

"Tail Risk, Volatility and Return Predictability"

11:30 a.m. – 2:00 p.m. CME Lunch and Presentation, White Auditorium, 2nd Floor

Special Presenter: Bluford Putnam - CME Group

"Probability Analytics and Transaction Costs in the Era of Event Risk"

**2:30 p.m. – 5:00 p.m.** Afternoon Participant Presentations:

"Ambiguity, Volatility, and Credit Risk" - Patrick Augustin

"How Important are Inflation Expectations for the Nominal Yield

Curve" - Roberto Gomez Cram

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"Simulation-based Term Structure Estimation with Application to Volatility-induced Stationary Models" – Anne Lundgaard Hansen "The Leverage Effect and the Variance Risk Premium" – Guanglian Hu

"Idiosyncratic Volatility, its Expected Variation, and the Cross-Section of Stock Returns" – T. Frederik Middelhoff
"Crash Risks in Individual Stocks" – Paola Pederzoli

Wednesday, July 26, 2017 – Kellogg Global Hub, Room L110

**8:30 a.m. – 9:00 a.m.** Breakfast

9:00 a.m. – 12:15 p.m. Morning Lectures, Torben Andersen and Viktor Todorov

"Exploring Important Empirical Issues in Financial Economics via

Corridor Volatility"

"Nonparametric Option-Implied Volatility and Nonparametric Implied

Levy Density""

**12:30 p.m. – 1:30 p.m.** Lunch

**2:00 p.m. – 5:00 p.m.** Afternoon Participant Presentations:

"High Frequency Risk Neutral Moments and Risk Discovery in

European Banks" - Yoichi Otsubo

"Estimation of Integrated Quadratic Covariation with Endogenous

Sampling Times" - Yoann Potiron

"The Information Content of High Dimensional Option Implied

Average Correlations: Evidence from High Frequency Option Panel"

Yang Zhang

"Testing for common factors in large factor models" – Yinchu Zhu "Model-Free Approaches to Discern Non-Stationary Market

Microstructure Noise and Time-Varying Liquidity" – Richard Chen

**5:00 p.m.** – **7:00 p.m.** Conference Dinner, Global Hub Market Place, 1<sup>st</sup> Floor

Thursday, July 27, 2017 – CBOE Conference Room

**7:00 a.m.** Meet at Global Hub Front Entrance for Shuttle Service Downtown

8:30 a.m. Check-In at CBOE

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**8:45 a.m. – 12:00 p.m.** Morning Lectures, Torben Andersen and Viktor Todorov:

"The Global Pricing of Tail Risk and the Equity Risk Premium"
"Parametric Inference and Dynamic State Recovery from Option

Panels"

"Unified Inference for Nonlinear Latent Factor Models from Panels

with Fixed and Large Time Span"

**12:00 p.m.** – **2:00 p.m.** Lunch, CBOE Presentation and Trading Floor Visit

**2:00 p.m. – 4:30 p.m.** Afternoon Lecture, Kevin Davitt (CBOE):

"Econometrics of Derivatives"

Afternoon Participant Presentations:

"Forecasting the Implied Volatility Structure" - Xun Gong

"The Volatility of Volatility Term Structure" – Hendrik Huelsbusch "Forward Looking Tail Risk Measures" – Markus Huggenberger "Transient and Persistent Factor Structure in Equity Options" –

Hamed Ghanbari

"The Peso Problem: Evidence from the S&P 500 Options Market" –

Ti Zhou

5:30 p.m. – 7:00 p.m. Architecture River Cruise, Chicago Architecture Foundation

Riverside Gardens, Chicago Riverwalk at Michigan Ave, 112 E

Wacker Dr, 60601

Friday, July 28, 2017 - Kellogg Global Hub, Room L110

8:30 a.m. – 9:00 a.m. Breakfast

9:00 a.m. – 12:15 p.m. Morning Lectures, Nicola Fusari:

"An 'Informal & Partial' Overview on Option Pricing"

**12:15 p.m. – 1:30 p.m.** Lunch

#### Lecturers:

Professor Torben G. Andersen (Kellogg School, Northwestern University) Professor Viktor Todorov (Kellogg School, Northwestern University) Nicola Fusari (Johns Hopkins University)

**Guest Speakers:** 

Bluford Putnam (CME Group)

Kevin Davitt (CBOE)