2016 FMA Conference on Derivatives and Volatility
10 - 11 November 2016
Chicago Board Options Exchange
400 South LaSalle Street, Chicago, IL 60605

KEYNOTE ADDRESS

Robert Engle
Michael Armellino Professor of Finance
New York University Stern School of Business

KEY SESSIONS:
- Trading and Options
- Volatility and Crash Evolution
- Market Risks
- Value of Information
- Derivatives Panel

#FMAatCBOE - Follow the Conversation

During the conference, use the hashtag #FMAatCBOE to follow the conversation on Twitter (@finmgmtassoc) and Facebook (www.facebook.com/FMA.org).
Welcome to the first annual conference on derivatives and volatility, co-sponsored by Chicago Board Options Exchange and the Financial Management Association International. This year's program is complete with a number of timely papers, two special panel sessions “How Market Makers Trade” and “Trends in Derivative Markets”, a special round table “What Practitioners Look for from Academics,” and Robert Engle’s Keynote Address. We hope you will find something on the program that is especially interesting to you.

Over 100 papers were submitted for the program, of which only 6% were accepted.

CBOE Holdings, Inc. (NASDAQ: CBOE) is the holding company for Chicago Board Options Exchange (CBOE), the CBOE Futures Exchange (CFE), and other subsidiaries. CBOE, the largest U.S. options exchange and creator of listed options, continues to set the bar for options and volatility trading through product innovation, trading technology and investor education. CBOE Holdings offers equity, index and ETP options, including proprietary products, such as S&P 500 options (SPX), the most active U.S. index option, and options and futures on the CBOE Volatility Index (the VIX Index). Other products engineered by CBOE include equity options, security index options, Weeklys options, LEAPS options, FLEX options, and benchmark products such as the CBOE S&P BuyWrite Index (BXM). CBOE Holdings is home to the world-renowned Options Institute, Livevol options analytics and data tools, and www.cboe.com, the go-to place for options and volatility trading resources.

The Financial Management Association International (FMA) was established in 1970 to foster development in the field of finance with particular emphasis on financial management. Although the early emphasis was on financial management, FMA also serves those in the profession who conduct research, practice, and/or teach in all areas of finance including investments, markets and institutions, derivatives and risk management, international finance, and behavioral finance. This broader agenda is especially evident at FMA’s conferences in North America, Europe, and Asia. FMA is a unique organization in many ways, in part due to our joint commitment to both quality and inclusiveness. In the past 40+ years, FMA has strived to do more to encourage research of the highest quality without abandoning inclusiveness. Among other things, FMA’s concept of inclusiveness encompasses providing the opportunity – by means of a fair and open process – for people of differing interests and needs to participate in presenting and discussing research.

2016 FMA Conference on Derivatives and Volatility Program Chairs

- Bryan Kelly, Associate Professor of Finance and Richard N. Rosett Faculty Fellow, Booth School of Business, University of Chicago
- Russell Rhoads, CFA, Director of Education, Chicago Board Options Exchange
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# Conference Program

## Thursday, November 10, 2016

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| 1:00 PM - 2:00 PM | Conference Registration & Group Trading Floor Tours  
*Location: 4th Floor Auditorium Entrance* |
| 2:00 PM - 2:15 PM | Opening Remarks by Russell Rhoads, CFA, CBOE                                               |
| 2:15 PM - 3:15 PM | Presentation by the CBOE Research Department on Product Creation  
Dennis O’Callahan, Director of Research and Product Development at CBOE  
and Jeff Blaschak, Ph.D., Principal Researcher at Social Market Analytics |
| 3:15 PM - 3:30 PM | Coffee Break                                                                             |
| 3:30 PM - 4:15 PM | Industry Roundtable: What Practitioners Look for from Academics?  
Moderator: Russell Rhoads, CFA, Director of Education, Chicago Board Options Exchange  
Panelists: Alan Grigoletto, Grigoletto Financial Consulting; Larissa Miller, Associate Professor, Benedictine University; and Mark Shore, Adjunct Professor, DePaul University |
| 4:15 PM - 5:15 PM | Presentation by Sheldon Natenberg, author of *Option Volatility and Pricing: Advanced Trading Strategies and Techniques* |
| 5:30 PM - 7:00 PM | Opening Reception  
*Location: Members’ Lounge – 4th Floor* |

## Friday, November 11, 2016

<table>
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<tr>
<th>Time</th>
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| 8:00 AM - 8:45 AM | Conference Registration & Breakfast  
*Location: 4th Floor Auditorium Entrance* |
| 8:45 AM - 9:00 AM | Opening Remarks by Bryan Kelly, University of Chicago                                      |
| 9:00 AM - 10:00 AM | Session 1: "How Crashes Develop: Intradaily Volatility and Crash Evolution"  
David Bates, University of Iowa and the National Bureau of Economic Research  
Presenter: David Bates, University of Iowa  
Discussant: Dacheng Xiu, University of Chicago |
| 10:00 AM - 11:00 AM | Session 2: "Short-Term Market Risks Implied by Weekly Options"  
Torben Anderson, Northwestern University; Nicola Fusari, Johns Hopkins University; Viktor Todorov, Northwestern University  
Presenter: Nicola Fusari, Johns Hopkins University  
Discussant: Steve Heston, University of Maryland |
<p>| 11:00 AM - 11:15 AM | Coffee Break                                                                             |</p>
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<tr>
<th>Time</th>
<th>Event</th>
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| 11:15 AM - 12:15 PM | **Session 3: "Demand for Crash Insurance, Intermediary Constraints, and Risk Premia in Financial Markets"**  
Hui Chen, MIT and the National Bureau of Economic Research; Scott Joslin, University of Southern California; Sophie Ni, Hong Kong University of Science and Technology  
Presenter: Scott Joslin, University of Southern California  
Discussant: Emil Siriwardane, Harvard University |
| 12:15 PM - 12:50 PM | **Luncheon**  
*Location: Cafeteria* |
| 1:00 PM - 1:45 PM | **Keynote Address**  
*Location: 4th Floor Auditorium*  
Robert Engle  
Michael Armellino Professor of Finance  
New York University Stern School of Business  
2003 Nobel Prize in Economics  
Professor Engle is an expert in time series analysis with a long-standing interest in the analysis of financial markets. His ARCH model and its generalizations have become indispensable tools not only for researchers, but also for analysts of financial markets. Many of these methods are now featured in the innovative public web site, V-LAB, where daily estimates of volatilities and correlations for more than a thousand assets can be found.  
These forecasts use both traditional and state of the art statistical methods. These computations are used in evaluating portfolio risk, asset allocation, derivative pricing and systemic risk measures now incorporated in the NYU Stern Systemic Risk Rankings. His research has produced such innovative statistical methods as cointegration, common features, autoregressive conditional duration (ACD), CAViaR, and DCC models. Now multiplicative error models (MEM) and factor spline garch (FSG) combine these into ever more powerful statistical tools.  
Professor Engle is the Director of the NYU Stern Volatility Institute and a co-founding president of the Society for Financial Econometrics (SoFiE), a global non-profit organization housed at NYU. Before joining NYU Stern in 2000, he was Chancellor’s Associates Professor and Economics Department Chair at the University of California, San Diego and Associate Professor of Economics at MIT. He is a member of the National Academy of Science. |
| 1:45 PM - 2:45 PM | **Session 4: "Estimating the Value of Information"**  
Ohad Kadan, Washington University in St. Louis and Asaf Manela, Washington University in St. Louis  
Presenter: Asaf Manela, Washington University in St. Louis  
Discussant: Jaroslav Borovicka, New York University |
| 2:45 PM - 3:45 PM | **Panel: Trends in Derivative Markets**  
Panelists: Don Wilson, CEO of DRW, Blair Hull, Founder and Chairman of Hull Investments and Robert Steigerwald, Senior Policy Advisor, Financial Markets of the Federal Reserve Bank of Chicago |
<table>
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<tr>
<th>Time</th>
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<tr>
<td>3:45 PM - 4:00 PM</td>
<td>Coffee Break</td>
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<td>4:00 PM - 5:00 PM</td>
<td><strong>Session 5: &quot;Option Trading Costs Are Lower Than You Think&quot;</strong></td>
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<td>Dmitriy Muravyev, Boston College and Neil Pearson, University of Illinois at Urbana-Champaign</td>
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<td>Presenter: Dmitriy Muravyev, Boston College</td>
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<td>Discussant: Roni Israelov, AQR</td>
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<td>5:00 PM - 6:00 PM</td>
<td><strong>Session 6: &quot;Informed Trading and Option Prices: Evidence from Activist Trading&quot;</strong></td>
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<td>Pierre Collin-Dufresne, Swiss Finance Institute and Ecole Polytechnique Federale De Lausanne; Vyacheslav Fos, Boston College; Dmitry Muravyev, Boston College</td>
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<td>Presenter: Vyacheslav Fos, Boston College</td>
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<td>Discussant: Kerry Back, Rice University</td>
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**Thank You to the 2016 Program Committee**

**Co-Chairs**
- Bryan Kelly, Associate Professor of Finance and Richard N. Rosett Faculty Fellow, Booth School of Business, University of Chicago
- Russell Rhoads, CFA, Director of Education, Chicago Board Options Exchange

**Members**
- Gurdip Bakshi, University of Maryland
- Turan Bali, Georgetown University
- Oleg Bondarenko, University of Illinois at Chicago
- Nina Boyarchenko, Federal Reserve Bank of New York
- Fousseni Chabi-Yo, Ohio State University
- Peter Christofferson, University of Toronto
- Pierre Collin-Dufresne, Ecole Polytechnique Fédérale de Lausanne
- Ian Dew-Becker, Northwestern University
- Christian Dorion, HEC Montreal
- Joost Driessen, Tilburg University
- Jin-Chuan Duan, National University of Singapore
- Bjorn Eraker, University of Wisconsin
- Peter Feldhutter, London Business School
- Mathieu Fournier, University of Chicago
- Bernard Herskovic, UCLA
- Kris Jacobs, University of Houston
- Asaf Manela, Washington University in St. Louis
- Larissa Miller, Benedictine University
- Seth Pruitt, Arizona State University
- Jeff Russell, University of Chicago
- Shrihari Santosh, University of Maryland
- Catherine Shalen, CBOE
- Ivan Shaliastovich, University of Pennsylvania
- Emil Siriwardane, Harvard University
- Viktor Todorov, Northwestern University
- Fabio Trojani, University of Geneva & Swiss Finance Institute
- Brian Weller, Northwestern University
- Liuren Wu, Baruch College
- Dacheng Xiu, University of Chicago
### Speakers

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<tr>
<th>Name</th>
<th>Title and Institution</th>
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<tr>
<td>Back, Kerry</td>
<td>J. Howard Creekmore Professor of Finance, Rice University</td>
</tr>
<tr>
<td>Bates, David</td>
<td>Henry B. Tippie Research Professor of Finance, University of Iowa</td>
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<tr>
<td>Blaschak, Jeff</td>
<td>Principal researcher, Social Market Analytics</td>
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<tr>
<td>Borovicka, Jaroslav</td>
<td>Assistant Professor, New York University</td>
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<tr>
<td>Engle, Robert</td>
<td>Michael Armellino Professor of Finance, New York University</td>
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<tr>
<td>Fos, Vyacheslav</td>
<td>Assistant Professor, Boston College</td>
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<tr>
<td>Fusari, Nicola</td>
<td>Assistant Professor, Johns Hopkins University</td>
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<td>Grigoletto, Alan</td>
<td>Grigoletto Financial Consulting</td>
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<tr>
<td>Heston, Steve</td>
<td>Associate Professor, University of Maryland</td>
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<tr>
<td>Hull, Blair</td>
<td>Founder, Hull Investments</td>
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<td>Joslin, Scott</td>
<td>Associate Professor, University of Southern California</td>
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<td>Israelov, Roni</td>
<td>AQR</td>
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<td>Manela, Asaf</td>
<td>Assistant Professor, Washington University in St. Louis</td>
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<td>Miller, Larissa</td>
<td>Associate Professor, Benedictine University</td>
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<td>Muravyev, Dmitriy</td>
<td>Assistant Professor, Boston College</td>
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<td>Natenberg, Sheldon</td>
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<td>O'Callahan, Dennis</td>
<td>Director of Research and Product Development, CBOE</td>
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<tr>
<td>Steigerwald, Robert</td>
<td>Senior Policy Advisor, Federal Reserve Bank of Chicago</td>
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<tr>
<td>Wilson, Don</td>
<td>CEO, DRW</td>
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<tr>
<td>Xiu, Dacheng</td>
<td>Assistant Professor, University of Chicago</td>
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### Upcoming FMA Conferences

**2017 Consortium on Institutional Investing and Hedge Funds**  
2 February 2017 | Cambridge, England  
*Registration coming soon.*  
[www.FMA.org/HedgeFundConference/2017/](http://www.FMA.org/HedgeFundConference/2017/)

**2017 Latin American Conference**  
16 - 17 February 2017 | Mexico City, Mexico  
*Registration now open.*  
[www.FMA.org/MexicoCity/](http://www.FMA.org/MexicoCity/)

**2017 Napa Conference on Financial Markets Research**  
24 - 25 March 2017 | Napa Valley, CA  
Submission Deadline: 21 November 2016  
[www.FMA.org/Napa/2017/](http://www.FMA.org/Napa/2017/)

**2017 Applied Finance Conference**  
12 May 2017 | New York, NY  
Submission Deadline: 6 January 2017  
[www.FMA.org/AF2017/](http://www.FMA.org/AF2017/)

**2017 Asia/Pacific Conference**  
25 - 26 May 2017 | Taipei, Taiwan  
Submission Deadline: 11 November 2016  
[www.FMA.org/Taiwan/](http://www.FMA.org/Taiwan/)

**2017 European Conference**  
22 - 23 June 2017 | Lisbon, Portugal  
Submission Deadline: 1 December 2016  
[www.FMA.org/Lisbon/](http://www.FMA.org/Lisbon/)

**2017 Annual Meeting**  
11 - 14 October 2017 | Boston, MA  
Submission Deadline: 17 January 2017  
[www.FMA.org/Boston](http://www.FMA.org/Boston)

*Conference includes a Doctoral Student Consortium advance doctoral students.*
FINANCIAL MANAGEMENT ASSOCIATION INTERNATIONAL

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President
Serves as the chief spokesperson for the Association
2016-17 William Christie  Vanderbilt University
2017-18 Brad Barber  University of California, Davis

Secretary/Treasurer
Manages the financial affairs of the Association
2012-22 Andrea Heuson  University of Miami

Vice President – Annual Meeting Program
Determines the type of program to be offered and selects the participants
2017 Jeffrey Coles  University of Utah
2018 Ronald Masulis  University of New South Wales

Vice President – Financial Education
Responsible for developing and administering financial education activities including the development of sessions on financial education for the Annual Meeting program
2016-18 Andrew Metrick  Yale University

Vice President – Practitioner Services
Responsible for enhancing the value of practitioner membership and promoting interaction between practitioners and academicians
2011-17 Javier Estrada  IESE Business School

Vice President – Global Services
Responsible for developing and administering activities to globalize the Association
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Oversees the operation of the Student Chapters’ program and represents the interests of FMA’s student members
2012-18 Ross Dickens  University of Tennessee Martin

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2015-17 Kai Li  University of British Columbia
2016-18 Darius Miller  Southern Methodist University
2016-18 Gregory Udell  Indiana University
2015-17 Renée Adams  University of New South Wales
2015-17 Iftekhar Hasan  Fordham University & Bank of Finland

Program Co-Chairs – FMA European Conference (Lisbon, Portugal)
2017 Alexander Butler  Rice University
2017 João Duque  ISEG
2017 Veronika Krepey Pool  Indiana University

Program Co-Chairs – FMA Asia/Pacific Conference (Taipei, Taiwan)
2017 Sheng-Syan Chen  National Taiwan University
2017 Jarrad Harford  University of Washington

Program Co-Chairs – FMA Latin America Conference (Mexico City, Mexico)
2017 Renata Herreras Franco  ITAM
2017 Fernando Zapatero  University of Southern California

Editors
Responsible for their editorial staff and for the contents of their respective publications

Financial Management
2011-16 Marc Lipson  University of Virginia
2016-19 Utpal Bhattacharya  Hong Kong Univ of Sci & Tech
2016-19 Rajkamal Iyer  Imperial College London

FMA Survey and Synthesis Series
2016-19 Laura Starks  University of Texas Austin

FMA Online
2012-19 Executive Editor
Jacqueline Garner  Georgia Tech

Publications’ Committee Chairperson
2016-19 Laura Starks  University of Texas Austin

Practitioner Directors
Represent the interests of FMA’s practitioner members
2016-18 Scott Bauguess  US SEC
2016-18 Amy Edwards  US SEC
2016-18 Kathleen Weiss Hanley  Lehigh University
2015-17 Mark Kritzman  Windham Capital Management
2015-17 Craig Lewis  Vanderbilt University
2013-17 Marc Zenner  JP Morgan

FMA Board of Trustees
Responsible for insuring the long-term continuity of the Association and have the authority to approve appointments or any other matter which appears to affect the basic structure or operation of the Association
2013-20 Franklin Allen  Imperial College London
2016-23 David Denis  University of Pittsburgh
2009-18 Robert Harris  University of Virginia
2014-21 Kose John  New York University
2012-19 G Andrew Karoly*  Cornell University
2010-17 Maureen O’Hara  Cornell University
2014-19 Ajay Patel  Wake Forest University
2015-22 Jay Ritter  University of Florida
2011-18 Anthony Saunders  New York University

* Chairperson

All terms of office begin at the end of the Annual Meeting in the first indicated year (e.g. 2016 in 2016-18) and end at the conclusion of the Annual Meeting in the second indicated year (e.g. 2018 in 2016-18).