

Professor Maureen O'Hara

Professor David Easley

**Masters Class in Market Microstructure  
May 2011**

**Course Objective**

This is a doctoral level seminar in finance designed to acquaint students and faculty with the research in the area of market microstructure. Microstructure is a huge area, and so we will focus on only a few of the many important issues in the current literature. The course will look at both theoretical and empirical issues. Because information issues are fundamental to many of the issues covered, this course should be of interest to students in Finance, Economics, and Accounting. This course is structured to introduce participants to interesting research problems in the securities markets.

**Useful Books**

O'Hara, M., Market Microstructure , Theory (Blackwell: 1995)

Hasbrouck, J., Empirical Market Microstructure , (Oxford University Press:2007)

**Session Schedule (approximately)**

**1. Introduction to Market Making: How Markets Work**

O'Hara, M., 2003, Presidential Address: Liquidity and Price Discovery", Journal of Finance, 58(5), 1335-1354.

O'Hara, M., 2007, Optimal Microstructures, European Financial Management, 13( 5) 825-832.

Grossman, S. and J. Stiglitz, 1980, On the Impossibility of Informationally Efficient Markets, American Economic Review 70 (3).

**2 Introduction to Microstructure Models**

Glosten, L. R. and P. Milgrom (1985), "Bid, ask and transaction prices in a specialist market with heterogeneously informed traders", Journal of Financial Economics, 14, 71-100.

Easley, D. and M. O'Hara (1987), "Price, Trade Size, and Information in Securities Markets", Journal of Financial Economics, 19.

Easley, D. and M. O'Hara (1992b), "Time and the process of security price adjustment", Journal of Finance, 47, 576-605.

Kyle, Albert S. (1985), "Continuous Auctions and Insider Trading", Econometrica 53, 1315-1335.

Additional reading if you are interested:

Mendleson, H. and A. Tunca, 2002, Strategic Trading, Liquidity, and Information Acquisition, Review of Financial Studies.

Back, K. and S. Baruch, 2004, Information in Securities Markets: Kyle meets Glosten and Milgrom, Econometrica, 72(2) 433-465.

Brunnermeir, M, and L. Pederson, 2005, Predatory Trading, Journal of Finance, 60(4), 1825-1863

### 3. Implementation of Microstructure models – asset pricing

Easley, D., N. Kiefer, and M. O'Hara, 1997, One Day in the Life of a Very Common Stock, Review of Financial Studies.

Easley, D, N. Kiefer, M. O'Hara and J. Paperman, 1996, Liquidity, Information and Infrequently Traded Stocks, Journal of Finance

Easley,D., Hvidkjaer, S. and M. O'Hara, 2004, Is Information Risk a Determinant of Asset Returns? Journal of Finance

Aslan, H., Easley,D., Hvidkjaer, S. and M. O'Hara. 2008, Firm Characteristics and Informed Trading: Implications for Asset Pricing, working paper, Sept. 2008.

Additional readings if you are interested:

Vega, C., 2006, Stock price reaction to public and private information, Journal of Financial Economics, 82(10), 103-133.

Amihud, Y., and H. Mendelson, 1986, Asset Pricing and the Bid-Ask Spread, Journal of Financial Economics

Ben-Rephael. A. , Kadan, O., and A. Wohl, Avi, 2009, The Diminishing Liquidity Premium, Working Paper, Washington University Olin School.

Chordia, T., R. Roll and A. Subrahmanyam, 2000, Commonality in liquidity, Journal of Financial Economics, 56, 3-28

Pastor, L. and R. Stambaugh, 2003, Liquidity risk and expected stock returns, Journal of Political Economy, 111, 642-685.

Goyenko, Y. G., Holden, C.,and C. Trzcinka, Do Liquidity Measures Measure Liquidity? Journal of Financial Economics, May 2009

Duarte, J., and L. Young, 2009, Why is PIN Priced? Journal of Financial Economics,

Brunnermeir, M. and L. Pedersen, 2009, Market Liquidity and Funding Liquidity, Review of Financial Studies,

### 4. Information and the Cost of Capital

Easley,D., Hvidkjaer, S. and M. O'Hara, 2004, Is Information Risk a Determinant of Asset Returns? Journal of Finance

Easley, D., M. O'Hara, and L. Yang, Differential Access to Price Information, Working paper.

Additional readings if you are interested:

Crespa, G. and T. Foucault, 2008, Insiders, Outsiders and the value of the tape, Working paper, Cass School of Business

## 5. Ambiguity in Markets

Easley, D. and M. O'Hara, 2010, Liquidity and Valuation in an Uncertain World, Journal of Financial Economics,

Easley, D. and M. O'Hara, 2010, "Microstructure and Ambiguity," Journal of Finance, 65(5), October 2010, 1827-1846.

Additional readings if you are interested:

Easley, D. and M. O'Hara, 2009, "Ambiguity and Non-participation: The Role of Regulation", Review of Financial Studies, 22(5), 1817-1844.

## 6. The High Frequency World

Easley, D., M. Lopez de Prado, and M. O'Hara, 2011, The microstructure of the flash crash, Journal of Portfolio Management, Winter.

Easley, D., M. Lopez de Prado, and M. O'Hara, 2011, The Exchange of Flow Toxicity, Journal of Trading, Spring

Easley, D., M. Lopez de Prado, and M. O'Hara, Flow Toxicity and Volatility in an Uncertain World, working paper.

Additional readings if you are interested:

Easley, D., R. F. Engle, M. O'Hara and L. Wu (2008), "*Time-Varying Arrival Rates of Informed and Uninformed Traders*", Journal of Financial Econometrics.

Deusaker, P. and T. Johnson, (2011), *Market Liquidity and Flow-driven Risk*, Review of Financial Studies, 24(3), 721-753.

Hasbrouck, J. and G. Saar (2010), "*Low Latency Trading*", Working Paper, Cornell University.

Kirilenko, A., A. P. Kyle, M. Samadi, and T. Tuzan, 2010, *The Flash Crash: The Impact of High-Frequency Trading on an Electronic Market*, Working paper.

Chaboud, A., Hjalmarsson, E., Vega, C. and Chiquoine, B., (2009), *Rise of the Machines: Algorithmic Trading in the Foreign Exchange Market*, FRB International Finance Discussion Paper No. 980.

Brogaard, J. (2010), "*High Frequency Trading and Its impact on Market Quality*", Working Paper, Northwestern University

Hendershott, T., Jones, C., and A. Menkveld, 2011, *Does Algorithmic Trading Improve Liquidity?*, Journal of Finance, 66(1), 1-33.

Hendershott, T. and R. Riordan, (2009), *Algorithmic Trading and Information*, NET Institute Working Paper No. 09-08.