

# Information in Markets and Organizations PhD Course

(cod 40948)

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This course is an introduction to the very active area of research on the economics of information. A wide range of applications are covered across fields including organizational economics, industrial organization, financial economics and accounting, political and public economics, as well as law and economics.

The course is designed to help your **transition from student to researcher status** in the second year of the PhD program. In line with this philosophy and to bring up to speed with the research frontier, you will be encouraged to actively participate in class discussions on cutting-edge research. Classes blend different modes of instructions:

- Presentation of **classic tools** by the instructor in a highly interactive style to enable you to pose and analyze problems as well as to navigate the literature;
- Analysis and structured discussion of recent **papers at the research frontier** to understand how researchers go from an idea to a paper as well as to allow you to identify gaps and important open questions;
- Guided **practice** with finding an important topic, formulating a research question, framing the problem in a way that can be answered, and learning how to communicate effectively.

Topics covered include persuasion and data manipulation, economics of research, privacy regulation, information diffusion, strategic incentives for information intermediaries, aggregation of information in markets (with applications to financial and prediction markets), government policies intended at mandating information disclosure and protecting consumers, approval regulation, reputation, reviews, and information management.

## Assessment

60%: Assignments (reports & presentations)

40%: Final report or paper proposal

## 1. Wisdom of the Crowd, Adverse Selection and the Winner's Curse

\* Galton, Francis (1907), "Vox Populi," *Nature*, 75(1949), 450–451.

\* Akerlof, George (1907), "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Nature*, 75(1949), 450–451.

\* Wilson, Robert (1969), "Competitive Bidding with Disparate Information," *Management Science*, 15(7), 446-452.

Ottaviani, Marco and Peter N. Sørensen (2006), "The Strategy of Professional Forecasting," *Journal of Financial Economics*, 81(2), 441–466.

Wilson, Robert (1977), "A Bidding Model of Perfect Competition," *Review of Economic Studies*, 44(3), 511–518.

Grossman, Sanford J. (1976), "On the Efficiency of Competitive Stock Markets Where Traders Have Diverse Information," *Journal of Finance*, 31(2), 573–585.

Vives, Xavier (2008), *Information and Learning in Markets*, Chapter 4: Rational Expectations and Market Microstructure in Financial Markets, Princeton University Press.

Borel, Emile (1938), "Sur le Pari-mutuel," *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, 207(3), 197–200.

Ottaviani, Marco and Peter N. Sørensen (2009), "Surprised by the Parimutuel Odds?" *American Economic Review*, 99(5), 2129–2134.

Ottaviani, Marco and Peter N. Sørensen (2010), "Noise, Information, and the Favorite-Longshot Bias in Parimutuel Predictions," *American Economic Journal: Microeconomics*, 2(1), 58–85.

Ottaviani, Marco and Peter N. Sørensen (2015), "Price Reaction to Information with Heterogeneous Beliefs and Wealth Effects: Underreaction, Momentum, and Reversal," *American Economic Review*, 105(1), 1–34.

Wolfers, Justin and Eric Zitzewitz (2005), "Interpreting Prediction Market Prices as Probabilities."

Bergemann, Dirk and Marco Ottaviani (2021), "Information Markets and Non-Markets," Chapter forthcoming in the *Handbook of Industrial Organization*, Volume 4, edited by Kate Ho, Ali Hortaçsu, and Alessandro Lizzeri.

## 2. Disclosure of Verifiable Information

\* Grossman, Sanford (1981), “The Informational Role of Warranties and Private Disclosure about Product Quality,” *Journal of Law and Economics*, 24(3), 461–483.

\* Milgrom, Paul (1980), “Good News and Bad News: Representation Theorems and Applications,” *Bell Journal of Economics*, 12, 380–391.

Viscusi, Kip (1978), “A Note on ‘Lemons’ Markets with Quality Certification,” *Bell Journal of Economics*, 9(1), 277–279.

Grossman, Sanford, and Oliver Hart (1980), “Disclosure Laws and Takeover Bids,” *Journal of Finance*, 3(2), 323–334

Leland, Hayne (1981), “Comment on Grossman,” *Journal of Law and Economics*, 24(3), 485–490.

Battigalli, Pierpaolo (2006), “Rationalization in Signaling Games: Theory and Applications,” *International Game Theory Review*, 8(1), 67–93.

Jin, Ginger Zhe, Michael Luca, and Daniel Martin (2021), “Complex Disclosure,” *Management Science*, forthcoming.

Verrecchia, Robert E. (1983), “Discretionary Disclosure,” *Journal of Accounting and Economics*, 5, 179–194.

Jovanovic, Boyan (1982), “Truthful Disclosure of Information,” *Bell Journal of Economics*, 13(1), 36–44.

Dye, Ronald (1985), “Disclosure of Nonproprietary Information,” *Journal of Accounting Research*, 23(1), 123–145.

Jung & Kwon (1988), “Disclosure When the Market is Unsure of Information Endowment of Managers,” *Journal of Accounting Research*, 26(1), 146–153.

Farrell, Joseph (1986), “Voluntary Disclosure: Robustness of the Unraveling Result, and Comments on Its Importance,” in: *Proceedings of the U.C. Santa Cruz Conference on Regulation and Antitrust*.

Matthews, Steven A., and Andrew Postlewaite (1985), “The Economics of Quality Testing and Disclosure,” *RAND Journal of Economics*, 16(3), 328–340.

Shavell, Steven (1994), “Acquisition and Disclosure of Information Prior to Sale,” *RAND Journal of Economics*, 25(1), 20–36.

### 3. Strategic Communication, Delegation, and Authority in Organizations

\* Spence, Michael (1973), "Job Market Signaling," *Quarterly Journal of Economics*, 87(3), 355–374.

\* Crawford, Vincent and Joel Sobel (1982), "Strategic Information Transmission," *Econometrica*, 50(6), 1431–1452.

Dessein, Wouter (2002), "Authority and Communication in Organizations," *Review of Economic Studies*, 69, 811–838.

Holmström, Bengt (1977), "On Incentives and Control in Organizations," Doctoral Dissertation, <http://econ-www.mit.edu/files/3856>

Alonso, Ricardo and Niko Matouschek (2008), "Optimal Delegation," *Review of Economic Studies*, 75(1), 259–293.

Sobel, Joel (1985), "A Theory of Credibility," *Review of Economic Studies*, 52(4), 557–573.

Morris, Stephen (2001), "Political Correctness," *Journal of Political Economy*, 109 (2), 231–265.

Battaglini, Marco (2002), "Multiple Referrals and Multidimensional Cheap Talk," *Econometrica*, 70(4), 1379–1401.

Morgan, John and Phillip Stocken (2003), "An Analysis of Stock Recommendations," *RAND Journal of Economics*, 34(1), 183–203.

Kartik, Navin, Marco Ottaviani and Francesco Squintani (2007), "Credulity, Lies, and Costly Talk," *Journal of Economic Theory*, 134(1), 93–116.

#### **4. Value of Information and Persuasion (with Application to Data Manipulation)**

Bikhchandani, Sushil, Jack Hirshleifer, John Riley (2013), *The Analytics of Uncertainty and Information*, Chapter 5: Information and Informational Decisions, Cambridge University Press.

DeGroot, Morris (1970), *Optimal Statistical Decisions*, Section 14.7: Sufficient Experiments, Wiley.

\* Lehmann, Erich (1986), “Comparing Location Experiments,” *Annals of Statistics*, 16(2), 521—533.

Persico, Nicola (2000), “Information Acquisition in Auctions,” *Econometrica*, 68(1), 135–148.

\* Kamenica, Emir, and Matthew Gentzkow (2011) “Bayesian Persuasion,” *American Economic Review*, 101(6), 2590-2615.

Di Tillio, Alfredo, Marco Ottaviani and Peter N. Sørensen (2017), “Persuasion Bias in Science: Can Economics Help?” *Economic Journal*, 127(605), F266–F304.

Di Tillio, Alfredo, Marco Ottaviani and Peter N. Sørensen (2021), “Strategic Sample Selection,” *Econometrica*.

Adda, Jerome, Christian Decker, and Ottaviani, Marco (2020), “P-Hacking in Clinical Trials and How Incentives Shape the Distribution of Results across Phases,” *Proceedings of the National Academy of the United States*.

## 5. Experimentation and Social Learning

\* Stokey, Nancy (2009), *The Economics of Inaction: Stochastic Control Models with Fixed Costs*, Princeton University Press. Chapter 2 (and 4)

\* Emeric Henry and Marco Ottaviani (2019), “Research and the Approval Process: The Organization of Persuasion,” *American Economic Review*, 109(3), 911–955.

Gul, Faruk, and Wolfgang Pesendorfer (2012), “The War on Information,” *Review of Economic Studies*, 79, 707–734.

Banerjee, Abhijit V. (1992), “A Simple Model of Herd Behavior,” *Quarterly Journal of Economics*, 107(3), 797–817.

Bikhchandani, Sushil, David Hirshleifer, and Ivo Welch (1992), “A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades,” *Journal of Political Economy*, 100(5), 992–1026.

Moscarini, Giuseppe, Marco Ottaviani and Lones Smith (1998), “Social Learning in a Changing World,” *Economic Theory*, 11(3), 657–665.

Smith, Lones and Peter Sørensen (2000), “Pathological Outcomes of Observational Learning,” *Econometrica*, 68(2), 371–398.

Cripps, Martin, Godfrey Keller and Sven Rady (2007), “Strategic Experimentation with Exponential Bandits,” *Econometrica*, 73, 39–68.

Hendricks, Kenneth and Dan Kovenock (1989), “Asymmetric Information, Information Externalities, and Efficiency: The Case of Oil Exploration,” *RAND Journal of Economics*, 20(2), 164–182.

Strulovici, Bruno (2010), “Learning While Voting: Determinants of Collective Experimentation,” *Econometrica*, 78(3), 933–971.

## 6. Information and Pricing

\* Johnson, Justin P. and David P Myatt (2006), “On the Simple Economics of Advertising, Marketing, and Product Design,” *American Economic Review*, 96(3), 756–784.

Ottaviani, Marco and Andrea Prat (2001), “The Value of Private Information in Monopoly,” *Econometrica*, 69(6), 1673–1683.

Bergemann, Dirk, Benjamin Brooks, and Stephen Morris (2015), “The Limits of Price Discrimination,” *American Economic Review*, 105(3), 921–957.

Bergemann, Dirk and Juuso Välimäki (1996), “Learning and Strategic Pricing,” *Econometrica*, 64, 1125–115.

Bose, Subir, Gerard Orosel, Marco Ottaviani, and Lise Vesterlund (2006), “Dynamic Monopoly Pricing and Herding,” *RAND Journal of Economics*, 37(4), 912–930.

Inderst, Roman and Marco Ottaviani (2009), “Misselling through Agents,” *American Economic Review*, 99(3): 883–908.

Inderst, Roman and Marco Ottaviani (2012a), “Competition through Commissions and Kickbacks,” *American Economic Review*, 99(3): 883–908.

Inderst, Roman and Marco Ottaviani (2012b), “How (Not) to Pay for Advice: A Framework for Consumer Financial Protection,” *Journal of Financial Economics*, 105(2), 393–411.

Inderst, Roman and Marco Ottaviani (2013), “Sales Talk, Cancellation Terms, and the Role of Consumer Protection,” *Review of Economic Studies*, 80 (3): 1002–1026.

## 7. Aggregation of Information in Committees and Elections

Feddersen, Timothy and Wolfgang Pesendorfer, (1997), “Voting Behavior and Information Aggregation in Elections with Private Information” *Econometrica*, 65(5), 1029–1058.

Li, Hao, Sherwin Rosen, and Wing Suen (2001), “Conflicts and Common Interests in Committees,” *American Economic Review*, 91 (5), 1478–1497.

McMurray, Joseph (2013), “Aggregating Information by Voting: The Wisdom of the Experts versus the Wisdom of the Masses,” *Review of Economic Studies*, 80(1), 277–312.

Morgan, John and Phillip C. Stocken (2008), “Information Aggregation in Polls,” *American Economic Review*, 98(3), 864–896.

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Levy, Gilat (2007), “Decision Making in Committees: Transparency, Reputation, and Voting Rules,” *American Economic Review*, 97(1), 150–168.

Visser, Bauke and Otto H. Swank (2007), “On Committees of Experts,” *Quarterly Journal of Economics*, 122(1), 337–372.



## 8. Research and Economics of Science

\* Azoulay, Pierre, Joshua S. Graff Zivin, Danielle Li, Bhaven N. Sampat (2019), “Public R&D Investments and Private-sector Patenting: Evidence from NIH Funding Rules,” *Review of Economic Studies*, 86(1), 117–152.

Chassang, Sylvain, Gerard Padro i Miquel, and Erik Snowberg (2012), “Selective Trials: A Principal-Agent Approach to Randomized Controlled Experiments,” *American Economic Review*, 102(4), 1279–1309.

Banerjee, Abhijit V., Sylvain Chassang, Sergio Monteiro, and Erik Snowberg (2020), “A Theory of Experimenters: Robustness, Randomization, and Balance,” *American Economic Review*, forthcoming.

Frankel, Alexander (2021), “Selecting Applicants.” *Econometrica*.

Frankel, Alexander and Maximilian Kasy (2021), “Which Findings Should be Published?” *American Economic Journal*.

Henry, Emeric (2009), “Strategic Disclosure of Research Results: The Cost of Proving Your Honesty,” *Economic Journal*, 119(539), 1036–1064.

Fishman, Michael J., and Kathleen M. Hagerty (1990), “The Optimal Amount of Discretion to Allow in Disclosure,” *Quarterly Journal of Economics*, 105(2), 427–444.

Hoffmann, Florian, Roman Inderst, and Marco Ottaviani (2020), “Persuasion through Selective Disclosure: Implications for Marketing, Campaigning, and Privacy Regulation,” *Management Science*, 66(11), 4958–4979.

Ottaviani, Marco (2020), “Grantmaking.”