**Initial Syllabus**
**Econ 8000-004**
**August 25, 2023**

# Logistics

**Professor.** Steve Matthews, stevenma@econ.upenn.edu.

**Class Hours.** Tuesdays and Thursdays, 10:15-11:44 am, in 510 PCPE.

**Office Hours.** Mondays, 11-12 am in 618 PCPE, or by appointment.

**Description.** This is a half-semester microeconomic theory course, designed primarily for second-year Ph.D. students. It will focus on research articles, both older foundational and more recent contributions, on a subset of the topics under the rubric of "strategic information transmission." See below. The format will be similar to that of a reading group: I'll start the ball rolling for each topic, but subsequently we will all be presenting and discussing papers in a round robin fashion.

**Evaluation.** Grades will be based on (1) article presentations; (2) possible homework assignments, and (3) your choice of either a research proposal or a referee report on a paper not presented in class.

# Strategic Information Transmission

"Strategic Information Transmission" occurs when agents (senders) in a game or market either acquire or are endowed with private information that they or others wish would be transmitted to other agents (receivers). The vast literature on this has many overlapping strands, and ranges from pure theory to concrete applications. The *cheap talk* strand studies situations in which messages do not directly enter payoff functions and senders are able to send any message they want, regardless of the nature of their private information. A complimentary strand studies situations in which information is *hard (certifiable, verifiable, evidence).* Two other strands of the literature study situations in which either receivers or senders can commit ex ante to decision rules: in *delegation* models, receivers commit to rules that will map received messages into actions, whereas in *Bayesian persuasion* models, senders commit to rules that will map their information into probability distributions over messages.

In this course we shall focus primarily on non-commitment models, i.e., cheap talk and hard information models. That said, there is overlap, and we may touch on a few ideas from the Bayesian persuasion and mechanism/information design literatures. These topics are dealt with more intensively in Econ 8000s being taught later this year.

The following lists contain papers that are seminal, or important, or easy introductions to the ideas, or ones I want to read. Only some of these papers will be presented in class. They are – very roughly – in the order in which they will be discussed. Warning: everything is subject to change!

# 1. Cheap Talk Readings

### Surveys

Sobel, Joel (2013), "Giving and Receiving Advice," *Advances in Economics and Econometrics, Tenth World Congress*, ed. D. Acemoglu, M. Arellano, and E. Dekel, Cambridge Univ. Press, 305-341. Canvas.

Forges, Françoise (2020), "Games with Incomplete Information: From Repetition to Cheap Talk and Persuasion," *Annals of Economics and Statistics.*

**Seminal Article**

Crawford, V. and J. Sobel (1982), "Strategic Information Transmission," *Econometrica,* 52(6), 1431-1451.

**Application**

Matthews, Steven (1989), "Veto Threats: Rhetoric in a Bargaining Game," *Quarterly Journal of Economics*.

**Multidimensial**

Krishna V. and J. Morgan (2000), "A Model of Expertise," *Quarterly Journal of Economics,* 116(2): 747-775.

Battaglini, M. (2002), "Multiple Referrals and Multidimensional Cheap Talk," *Econometrica,* 70(4): 1379-1401.

Chakraborty, A., and R. Harbaugh (2010): "Persuasion by Cheap Talk," *American Economic Review,* 100(5), 2361-82.

Levy, Gilad. and Ronny Razin (2007), "On The Limits of Communication in Multidimensional Cheap Talk: A Comment," *Econometrica,* 3, 885-894.

Ambrus, A., and S. Takahashi (2008): "Multi-sender Cheap Talk with Restricted State Space," *Theoretical Economics,* 3 1-27.

Meyer, Margaret, Ines Moreno de Barreda and Julia Nafziger (2019), "Robustness of full revelation in multidimensional cheap talk," *Theoretical Economics*.

Chakraborty, A., and R. Harbaugh (2007): "Comparative Cheap Talk," *Journal of Economic Theory,* 1, 70–94.

McGee, Andrew and Huanxing Yang (2013), "Cheap talk with two senders and complementary information," *Games and Economic Behavior*, 79, 181-191.

Cai, H. and J. T. Wang (2006), "Overcommunication in Strategic Information Transmission Games," *Games and Economic Behavior,* 56, 7-36.

Che, Y.-K., W. Dessein, and N. Kartik (2013): "Pandering to Persuade," *American Economic Review*.

Ambrus, Attila, Eduardo Azevedo, and Yuichiro Kamada (2013), "Hierarchical Cheap Talk," *Theoretical Economics,* 8 (1), 233 - 261.

Goltsman, M., and G. Pavlov (2011), "How to Talk to Multiple Audiences," *Games and Economic Behavior,* 72 (1), 100–122.

Hagenbach, Jeanne, Frederic Koessler (2010), "Strategic Communication Networks," *Review of Economic Studies*, 77, 1072-1099.

**Dynamic**

Krishna, V. and J. Morgan (2004), "The Art of Conversation - Eliciting Information from Experts through Multi-stage Communication," *Journal of Economic Theory,* 117(2): 147-179.

Renault, J., Solan, E. and N. Vieille (2013), "Dynamic Sender-Receiver Games," *Journal of Economic Theory*, 148, 502-534.

Golosov, Mikhail, Vasiliki Skreta, Aleh Tsyvinski, and Andrea Wilson (2014), "Dynamic Strategic Information Transmission," *Journal of Economic Theory,* 151, 304-341.

Aumann, R., and S. Hart (2003), "Long Cheap Talk," *Econometrica,* 71(6), 1619-1660.

Forges, F. (1990), "Equilibria with communication in a job market example," *Quarterly Journal of Economics*.

Forges, F. and F. Koessler (2008a), "Multistage communication with and without verifiable types," *International Game Theory Review,* 10 (2), 145-164.

Forges, F. and F. Koessler (2008b), "Long Persuasion Games," *Journal of Economic Theory,* 143 (1), 1-35.

**Refinements**

Farrell, J. (1993), "Meaning and Credibility in Cheap-Talk Games," *Games and Economic Behavior,* 5(4): 514-531.

Kartik, N. (2009), "Strategic Communication with Lying Costs," *Review of Economic Studies*, 4, 1359-1395.

Kartik, N., M. Ottaviani, and F. Squintani (2007): "Credulity, Lies, and Costly Talk," *Journal of Economic Theory,* 134(1), 93–116.

Matthews, S. A., M. Okuno-Fujiwara, and A. Postelwaite (1991), "Refining Cheap-Talk Equilibria," *Journal of Economic Theory,* 55(2): 247-273.

Matthews, S. A. and A. Postlewaite (1995), "On Modeling Cheap Talk in Bayesian Games," in *The Economics of Informational Decentralization: Complexity, Efficiency, and Stability: Essays in Honor of Stanley Reiter*, ed. John O. Ledyard, Kluwer Academic Publishers, 1995, 347-366.

Chen, Y., N. Kartik, and J. Sobel (2008): "Selecting Cheap-Talk Equilibria," *Econometrica,* 76, 117-136.

Dilme, Francesc, "Robust Information Transmission" (2023), *American Economic Review - Insights*.

Clark, Daniel and Drew Fudenberg (2021), "Justified Communication Equilibrium," *American Economic Review*.

Clark, Daniel (2021), Robust Neologism Proofness*," working paper, UCLA.

**Reputational**

Sobel, J. (1985), "A Theory of Credibility," *Review of Economic Studies,* 52(4): 557-573.

Morris, S. (2001), "Political Correctness," *Journal of Political Economy,* 109(2): 231-265.

Ottaviani, M. and P. N. Sorensen (2006), "Reputational Cheap Talk," *RAND Journal of Economics,* 37(1), 155–175.

**Argumentation**

Glazer, J. and A. Rubinstein (2001), "Debates and Decisions: On a Rationale of Argumentation Rules," *Games and Economic Behavior*.

Glazer, J. and A. Rubinstein (2004), "On the Optimal Rules of Persuasion," *Econometrica*.

Glazer, J. and A. Rubinstein (2006), "A Study in the Pragmatics of Persuasion: A Game Theoretical Approach," *Theoretical Economics*.

Chen, Y. and W. Olszewski (2014), "Effective Persuasion," *International Economic Review*.

**Miscellaneous**


Argenziano, Rossella, Sergei Severinov, and Francesco Squintani (2016), "Strategic Information Acquisition and Transmission," *American Economic Journal: Microeconomics,* 8(3): 119–155.

Goltsman, M., J. Horner, G. Pavlov, and F. Squintani (2009): "Mediation, Arbitration and Negotiation," *Journal of Economic Theory,* 144(4), 1397-1420.

Lipnowski, Elliot and Doron Ravid (2020), "Cheap Talk with Transparent Motives," *Econometrica*, 88(4), 1631–1660.

Antic Nemanja, Archishman Chakraborty, and Rick Harbaugh (2023), "Subversive Conversations," working paper.


# 2. Certifiable (Hard) Information


Grossman, S. J. (1981): "The Informational Role of Warranties and Private Disclosure about Product Quality," *Journal of Law & Economics,* 24(3), 461–483.

Milgrom, P. R. (1981): "Good News and Bad News: Representation Theorems and Applications," *Bell Journal of Economics,* 12(2), 380–391.

Matthews, S. A. and A. Postlewaite (1985) "Quality Testing and Disclosure," *RAND Journal of Economics*, 16, 328-340.

Dranove, David and Ginger Zhe Jin (2010), "Quality Disclosure and Certification: Theory and Practice," *Journal of Economic Literature.*

Polinsky, A. M. and S. Shavell (2012), "Mandatory versus Voluntary Disclosure of Product Risks," *Journal of Law, Economics and Organization*, 28 (2), 360-379.

Koessler, Frederic and Regis Renault (2012), "When does a firm disclose product information?" *RAND Journal of Economics*, 43, 630-649.

Mathis, J. (2008), "Full revelation of information in sender–receiver games of persuasion," *Journal of Economic Theory,* 143 (1), 571–584.

Seidmann, D. J., and E. Winter (1997): "Strategic Information Transmission with Verifiable Messages," *Econometrica,* 65(1), 163–170.

Dziuda, Wioletta (2011), "Strategic Argumentation," *Journal of Economic Theory,* 146, 1362-1397.

Esö, Péter and Balázs Szentes (2007), "The Price of Advice," *RAND Journal of Economics*, 38, 863–880.

Hagenbach, Jeanne, Frederic Koessler, and Eduardo Perez-Richet (2014), "Certifiable Pre-Play Communication: Full Disclosure," *Econometrica,* 82, 1093-1131.

Hagenbach, Jeanne, Frederic Koessler (2016), "Full Disclosure in Decentralized Organizations," *Economics Letters.*

Rayo, Luis and Ilya Segal (2010), "Optimal Information Disclosure," *Journal of Political Economy*, 118, 949-98.

Acharya, Viral V., Peter DeMarzo, and Ilan Kremer (2011), "Endogenous Information Flows and the Clustering of Announcements," *American Economic Review.*