

## Information, Persuasion, and Robustness

**Course Meeting:** Wednesday 5:45-9:00pm @ PCPSE 625

**Office Hours:** By appointment

**Course Description:** This is a second-year half-semester graduate course on microeconomic theory. The goal of this course is to provide an introduction to models of information, persuasion, and robustness.

Information plays a fundamental role in economic relationships, and so there are numerous theoretical and applied reasons to study information. For the first five weeks, we will focus particularly on environments where a party tries to influence another party's decision through communicating/manipulating information. We will cover the classical models as well as the recent developments in the literature. The last two weeks will be devoted into a different topic—robustness concerns.

Students across fields and cohorts are welcome to take the course. The course does require having seen the first-year Ph.D. Micro sequence. Auditors are welcome and are expected to participate in class.

**Evaluation:** The goal is to prepare students to do independent research. An integral part of this course, therefore, is reading and evaluating papers, exploring open questions, and thinking about what makes for good economics research. You do not need to pursue research along the themes of this course, but it is important that you still actively engage with the theme of this course, and do all the required readings.

A research proposal or paper is due by the March 30. It would be ideal to see completed drafts by the end of the summer. In addition to the paper, there could be in-class presentations, and there will be a number of “finger-warming” problem sets.

### Course Outline:

#### Week 1 (Jan 24): Representing and Comparing Information

- Blackwell Comparison of Experiments (Blackwell, 1953; Börgers, 2023)
- Comparison of “Signals” (Brooks, Frankel, and Kamenica, 2023)

#### Week 2 (Jan 31): Models of Communication and Persuasion

- Cheap Talk (Crawford and Sobel, 1982)

- Hard Information (Grossman, 1981; Milgrom, 1981; Dye, 1985)
- Bayesian Persuasion (Kamenica and Gentzkow, 2011)

### **Week 3 (Feb 7): Commitment Assumption and Other Connections**

- Reputation for Persuasion (Best and Quigley, 2020; Mathevet, Pearce, and Stacchetti, 2022)
- Cheap-Talk versus Persuasion (Chakraborty and Harbaugh, 2010; Lipnowski and Ravid, 2020; Lipnowski, Ravid, and Shishkin, 2022)
- Population Interpretation and Distribution of Messages (Lin and Liu, 2022)
- Informed Sender and Signaling (Perez-Richet, 2014; Koessler and Skreta, 2022; Zapechelnyuk, 2022)

### **Week 4 (Feb 14): Market Segmentation**

- Price Discrimination (Bergemann, Brooks, and Morris, 2015)
- Oligopoly: (Elliott, Galeotti, Koh, and Li, 2021)
- Multi-Product: Hagpanah and Siegel (2022)

### **Week 5 (Feb 21): Posterior-Mean Approach**

- Connection to Rothschild-Stiglitz/Blackwell (Gentzkow and Kamenica, 2016)
- Linear Programming Approach (Kolotilin, 2018)
- Interpretation through Walrasian equilibria (Dworczak and Martini, 2019)

### **Week 6 (Feb 28): Robustness to Correlations**

- Correlation-Robust Information Aggregation (Levy and Razin, 2022; de Oliveira, Ishii, and Lin, 2023; Arieli, Babichenko, Talgam-Cohen, and Zabarnyi, 2023)
- Multi-Dimensional Screening (Carroll, 2017)

### **Week 7 (Mar 13): Robust Contracts**

- Robustness of Linear Contracts (Carroll, 2015; Kambhampati, 2023a; Kambhampati, Toikka, and Vohra, 2023) [Guest Lecture?]
- Robust Incentive in Teams (Dai and Toikka, 2022; Kambhampati, 2023b) [Guest Lecture?]

## References

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