MRes, Economic Theory. DEEQA / 2nd semester.

Instructor: Johannes Hörner, joh.horner@gmail.com.

Lectures: Auditorium 6, Mondays 14:00–17:00.

Office Hours: By appointment.

The standard background textbook that I occasionally refer to is:

Textbook: Fudenberg, D. and J. Tirole, *Game Theory*, MIT Press, 1991.

This course will cover a variety of topics on communication and experimentation.

Course Outline (Tentative)

1. Communication and Experimentation
   (a) Just Talking
      i. Aumann, R.J., and M. Maschler (1995). *Repeated Games with Incomplete Information*, MIT Press.
      ii. Aumann, R. J. and S. Hart (2003). "Long Cheap Talk," *Econometrica*, **71**, 1619–1660.
      iii. Crawford, V. P. and J. Sobel (1982). "Strategic Information Transmission," *Econometrica*, **50**, 1431–1451.
      iv. Krishna, V. and J. Morgan (2004). "The art of Conversation: eliciting information from experts through multi-stage communication," *Journal of Economic Theory*, **117**, 147–179.
      v. Goltsman, M., J. Hörner, G. Pavlov and F. Squintani (2009). "Mediation, Arbitration and Negotiation," *Journal of Economic Theory*, **144**, 1397–1420.
      vi. Ely, J.C. (2017): "Beeps," *The American Economic Review*, 107, 31–53.
      vii. Renault, J., Solan, E. and N. Vieille (2017). "Optimal Dynamic Information Provision," *Games and Economic Behavior*, **104**, 329–349.
   (b) Just Acting
      i. Holmström, B. (1999). "Managerial Incentive Problems: a Dynamic Perspective," *Review of Economic Studies*, **66**, 169–182. (Originally published in 1982 in Essays in Honor of Professor Lars Wahlbeck.)
      ii. Keller, G., Rady S. and M. Cripps (2005). "Strategic Experimentation with Exponential Bandits," *Econometrica*, **73**, 39–68.

iii. Bolton, P. and C. Harris (1999): "Strategic Experimentation," *Econometrica*, **67**, 349–374.

iv. Bonatti, A. and J. Hörner (2011). "Collaborating," *American Economic Review*, **101**, 632–663.

v. Callander, S. (2011). "Searching and Learning by Trial and Error," *American Economic Review*, **101**, 2277–2308.11

(c) Influencing

i. Che, Y.-K., and J. Hörner (2018). "Recommender Systems as Mechanisms for Social Learning," *Quarterly Journal of Economics*, 133, 871–925.

ii. Kremer, I., Y. Mansour, and M. Perry (2014): "Implementing the 'Wisdom of the Crowd'," *The Journal of Political Economy*, 122, 998–1012.

2. More general tools: From Markov Decision Processes to stochastic games (lecture notes).

Course Objectives: This is an advanced class in game theory. The goal is to make students familiar with the topic of experimentation. After this class, the students are expected to be able to engage with the frontier papers on this topic.

Prerequisites: The basic knowledge of calculus and probability theory.

Grading system: The final grade will be based on class participation and home assignment(s).