**Behavioural Economics** **University of Oxford**
**Vincent P. Crawford** **Michaelmas Term 2018**

This paper is co-taught with Johannes Abeler and Séverine Toussaert, convenor, who will post separate syllabi. There will be approximately 24 hours of lectures in total, of which I will do the last 8. Wednesday lectures are in Seminar Room C; Friday lectures are in SR A. My lectures are as follows:

**Outline of lectures (the order is exact, but timing within slots is approximate)**

| | |
|---|---|
| Reference-dependence and loss aversion: Evidence, theory, and applications | Fri. 16:00-18:00 (week 5, November 9) |
| Behavioural game theory: Evidence, theory, and applications | Wed. 14:00-16:00 (week 6, November 14)<br>Fri. 16:00-18:00 (week 6, November 16)<br>Wed. 14:00-16:00 (week 7, November 21) |

The earlier lectures, in weeks 1-5, Wednesdays and Fridays, will be given by Séverine Toussaert on the introduction, time preferences and self-control, and social preferences; and by Johannes Abeler on behavioural welfare economics and applications to public economics. Exact schedules are on the Department's Weblearn course page. My course page is at http://econweb.ucsd.edu/%7Ev2crawford/SecondYearBehavioralEconomics , which you can reach by googling me or from the Department's Weblearn page. My office hours are by email appointment, and are normally held at All Souls College.

**Overview of behavioural decision and game theory**

Behavioural economics is a blend of traditional neoclassical microeconomics and empirically motivated assumptions whose goal is a better understanding of economic behavior and welfare. It can be divided into behavioural decision theory and behavioural game theory. Each subfield differs from its mainstream counterpart by paying particular attention to the psychological realism of behavioural assumptions and their consistency with empirical evidence. The goal is to identify empirically important deviations from traditional assumptions, to use the alternative assumptions the evidence suggests to build tractable formal models, and to use the models to better understand standard microeconomic questions. (Much of the empirical evidence used is experimental, but this is not a course in experimental economics: Experimental methods are considered only as needed to interpret evidence; and connections with field evidence will be made whenever they are helpful.)

Behavioural decision theory includes present-bias and time-inconsistency in intertemporal choice; reference-dependence and loss aversion in choice under certainty or uncertainty; ambiguity aversion in choice under uncertainty; social preferences such as altruism, envy, spite, fairness, or reciprocity; overconfidence, identity, and self-image; and heuristics and biases in probabilistic judgment.

Behavioural game theory in principle includes "behavioral decisions in games", but the theory has so far followed the "divide and conquer" strategy of focusing on topics unique to games. It covers learning; models of bargaining; and models of strategic thinking in initial responses to games.
The course covers selected topics, about 2/3 decision theory (like the profession) and 1/3 game theory. Specific topics will vary from year to year. This year I will cover reference-dependence and loss aversion and behavioural game theory.

**Readings** (the most important of these are marked *. I give readings even for topics not covered this year, in case they are helpful. **They are optional: you will be tested only on material in lectures.**)

These books are worth owning if you have a special interest in this field, but the Social Science Library (lending and reference) has copies of each:

Colin Camerer, George Loewenstein, and Matthew Rabin, editors, *Advances in Behavioral Economics*, Princeton 2003 ("*Advances*" in the reading list)

Colin Camerer, *Behavioral Game Theory: Experiments on Strategic Interaction*, Princeton 2003 ("*BGT*")

These books may also be of interest:

Sanjit Dhami, *The Foundations of Behavioral Economic Analysis*, Oxford, 2016

Daniel Kahneman and Amos Tversky, editors, *Choices, Values, and Frames*, Cambridge 2000

Daniel Kahneman, *Thinking, Fast and Slow*. Farrar, Strauss, Giroux 2011

David Kreps, *Game Theory and Economic Modelling*, Oxford 1990

Thomas Schelling, *The Strategy of Conflict*, Oxford 1960 or Harvard 1980

Richard Thaler, *The Winner's Curse: Paradoxes and Anomalies of Economic Life*, Princeton 1994

**Behavioural Decision Theory: General Background (not covered this year, but may be useful)**

*Matthew Rabin, "A Perspective on Psychology and Economics," *European Economic Review* 46 (2002), 657-685; http://dx.doi.org/10.1016/S0014-2921%2801%2900207-0.

*Colin Camerer and George Loewenstein, "Behavioral Economics: Past, Present, Future," Chapter 1 in *Advances*; manuscript at http://www.hss.caltech.edu/~camerer/ribe239.pdf

Daniel Kahneman, "Maps of Bounded Rationality: Psychology for Behavioral Economics," *American Economic Review* 93 (2003), 1449-1475; http://www.jstor.org/stable/3132137

Teck-Hua Ho, Noah Lim, and Colin Camerer, "Modeling the Psychology of Consumer and Firm Behavior with Behavioral Economics," *Journal of Marketing Research* 43 (2006), 307-331; manuscript at http://www.hss.caltech.edu/~camerer/JMRFinal.pdf, published version at http://dx.doi.org/10.1509/jmkr.43.3.307

Matthew Rabin, "Psychology and Economics," *Journal of Economic Literature* 36 (1998), 11-46; http://www.jstor.org/stable/2564950

Stefano Dellavigna, "Psychology and Economics: Evidence from the Field," *Journal of Economic Literature*, 47 (2009), 315-372; http://elsa.berkeley.edu/~sdellavi/wp/01-DellaVigna-4721.pdf.

**Reference-Dependence and Loss Aversion (covered this year)**

*Colin Camerer, "Three Cheers—Psychological, Theoretical, Empirical—for Loss-Aversion," *Journal of Marketing Research*, 42 (2005), 129-133; http://dx.doi.org/10.1509/jmkr.42.2.129.62286; manuscript at http://www.hss.caltech.edu/~camerer/lossaversionJMR2.doc

*Daniel Kahneman, Jack Knetsch, and Richard Thaler, "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias," *Journal of Economic Perspectives* 5 (1991), 193-206; http://www.jstor.org/stable/1942711

Daniel Kahneman, Jack Knetsch, and Richard Thaler, "Experimental Tests of the Endowment Effect and the Coase Theorem," *Journal of Political Economy* 98 (1990), 1325-1348; Chapter 2 in *Advances*; http://www.jstor.org/stable/2937761

Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica* 47 (1979), 263-292; http://www.jstor.org/stable/1914185 or www.hss.caltech.edu/~camerer/Ec101/ProspectTheory.pdf

Colin Camerer, "Prospect Theory in the Wild: Evidence from the Field," in Kahneman and Tversky, editors, *Choices, Values, and Frames*, Cambridge 2002; Chapter 5 in *Advances*; http://www.hss.caltech.edu/SSPapers/wp1037.pdf.

*Matthew Rabin and Richard Thaler, "Anomalies: Risk Aversion," *Journal of Economic Perspectives* 15 (2001), 219-232; http://www.jstor.org/stable/2696549

Matthew Rabin, "Risk Aversion and Expected-Utility Theory: A Calibration Theorem," *Econometrica* 68 (2000), 1281-1292; http://www.jstor.org/stable/2999450

Paul Samuelson, "Comments on the Favorable-Bet Theorem," *Economic Inquiry* 12 (1974), 345-55; reprinted in his *Collected Scientific Papers*, vol. IV, 550-560

Paul Samuelson, "Risk and Uncertainty: A Fallacy of Large Numbers," *Scientia* 98 (1963), 108-113; reprinted in his *Collected Scientific Papers*, vol. I, 153-158

*Botond Kőszegi and Matthew Rabin, "A Model of Reference-Dependent Preferences," *Quarterly Journal of Economics* 121 (2006), 1133-1165; http://www.jstor.org/stable/25098823 or http://elsa.berkeley.edu/~botond/refdep.pdf

Johannes Abeler, Armin Falk, Lorenz Goette, and David Huffman, "Reference Points and Effort Provision," *American Economic Review* 101 (2011), 470-492; http://dx.doi.org/10.1257/aer.101.2.470 or https://sites.google.com/site/johannesabeler/AbelerFalkGoetteHuffman2011%20-%20Reference%20points%20and%20effort%20provision.pdf?attredirects=0

Botond Kőszegi and Matthew Rabin, "Reference-Dependent Risk Attitudes," *American Economic Review* 97 (2007), 1047-1073; http://elsa.berkeley.edu/~botond/refdep_risk.pdf or http://www.jstor.org/stable/30034084

Botond Kőszegi and Matthew Rabin, "Reference-Dependent Consumption Plans," *American Economic Review* 99 (2009), 909-936; http://elsa.berkeley.edu/~botond/drp.pdf or http://www.jstor.org/stable/25592487

Richard Thaler and Eric Johnson, "Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice," *Management Science* 36 (1990), 643-660; http://www.jstor.org/stable/2631898

*David Genesove and Christopher Mayer, "Loss Aversion and Seller Behavior: Evidence from the Housing Market," *Quarterly Journal of Economics* 116 (2001), 1233 – 1260; http://www.jstor.org/stable/2696458

Terrance Odean, "Are Investors Reluctant to Realize their Losses?," *Journal of Finance* 53 (1998), 1775-1798; http://www.jstor.org/stable/117424

Justin Sydnor, "(Over)Insuring Modest Risks,"*American Economic Journal: Applied Economics* 2 (2010), 177–199; http://www.aeaweb.org/articles.php?doi=10.1257/app.2.4.177 or http://faculty.weatherhead.case.edu/sydnor/deductibles.pdf

Thierry Post, Martin van den Assem, Guido Baltussen, and Richard Thaler, "Deal or No Deal? Decision Making under Risk in a Large-Payoff Game Show," *American Economic Review* 98 (2008), 38-71; http://www.jstor.org/stable/29729963

*Colin Camerer, Linda Babcock, George Loewenstein, and Richard Thaler, "Labor Supply of New York City Cabdrivers: One Day at a Time," *Quarterly Journal of Economics* 112 (1997), 407-441; Chapter 19 in *Advances*; http://www.jstor.org/stable/2951241

*Vincent Crawford and Juanjuan Meng, "New York City Cabdrivers' Labor Supply Revisited: Reference-Dependent Preferences with Rational-Expectations Targets for Hours and Income"; *American Economic Review* 101 (2011), 1912-1932; http://www.aeaweb.org/articles.php?doi=10.1257/aer.101.5.1912 or http://dss.ucsd.edu/%7Evcrawfor/CrawfordMengAER11

Jeremy Siegel and Richard Thaler, "Anomalies: The Equity Premium Puzzle," *Journal of Economic Perspectives* 11 (1997), 193-205; http://www.jstor.org/stable/2138259

Shlomo Benartzi and Richard Thaler, "Myopic Loss Aversion and the Equity Premium Puzzle," *Quarterly Journal of Economics* 110 (1995), 73-92; Chapter 22 in *Advances*; http://www.jstor.org/stable/2118511

*Paul Heidhues and Botond Kőszegi, "Competition and Price Variation when Consumers are Loss Averse," *American Economic Review* 98 (2008), 1245-1268; http://www.aeaweb.org/articles.php?doi=10.1257/aer.98.4.1245 or http://elsa.berkeley.edu/~botond/pricing_comp.pdf

Juan Carlos Carbajal and Jeffrey C. Ely. "A Model of Price Discrimination under Loss Aversion and State-contingent Reference Points," *Theoretical Economics* 11 (2016), 455–485; https://econtheory.org/ojs/index.php/te/article/view/20160455

Kfir Eliaz and Ran Spiegler, "Reference Dependence and Labor-Market Fluctuations," *NBER Macroeconomics Annual* 28 (2013), 159-200; http://www.journals.uchicago.edu/doi/full/10.1086/674596

**Behavioural Game Theory: General Background (covered this year)**

**BGT*, Chapter 1, Introduction; Appendix 1.1, Basic Game Theory; and Appendix 1.2, Experimental Design; manuscript of Chapter 1 at http://dss.ucsd.edu/~vcrawfor/Camerer_Ch1intro.pdf.

Vincent Crawford, Sections 1, Introduction; 2, Theoretical Frameworks and Unresolved Questions; 3, Experimental Designs; and 7, Conclusion in "Theory and Experiment in the Analysis of Strategic Interaction" ("*TE*"), Chapter 7 in David Kreps and Ken Wallis, Editors, *Advances in Economics and Econometrics: Theory and Applications, Seventh World Congress*, Vol. I, Cambridge 1997; http://dss.ucsd.edu/~vcrawfor/CrawfordThExp97.pdf; Chapter 12 in *Advances*

**Strategic Thinking (covered this year)**

*Vincent Crawford, Miguel Costa-Gomes, and Nagore Iriberri, "Structural Models of Nonequilibrium Strategic Thinking: Theory, Evidence, and Applications," *Journal of Economic Literature* 51 (March 2013), 5-62, Sections 1, Introduction, and 2 Alternative Models of Strategic Thinking; http://weber.ucsd.edu/%7Evcrawfor/CCGIJEL13.pdf

*BGT*, Chapters 5, Dominance-Solvable Games; and 7, Coordination

*TE*, Sections 4, Dominance and Iterated Dominance; and 5, Simultaneous Coordination

Adam Brandenburger, "Knowledge and Equilibrium in Games," *Journal of Economic Perspectives* 6 (1992), 83-101; http://www.jstor.org/stable/2138270.

Richard McKelvey and Thomas Palfrey, "Quantal Response Equilibria for Normal-Form Games," *Games and Economic Behavior* 10 (1995), 6-38; http://dx.doi.org/10.1006/game.1995.1023.

Dale Stahl and Paul Wilson, "On Players' Models of Other Players: Theory and Experimental Evidence," *Games and Economic Behavior* 10 (1995), 218-254; http://dx.doi.org/10.1006/game.1995.1031.

Rosemarie Nagel, "Unraveling in Guessing Games: An Experimental Study," *American Economic Review* 85 (1995), 1313-1326; http://www.jstor.org/stable/2950991.

Teck-Hua Ho, Colin Camerer, and Keith Weigelt, "Iterated Dominance and Iterated Best Response in Experimental '*p*-Beauty Contests'," *American Economic Review*, 88 (1998), 947-969; http://www.jstor.org/stable/117013.

Colin Camerer, Teck-Hua Ho, and Juin Kuan Chong, "A Cognitive Hierarchy Model of Games," *Quarterly Journal of Economics* 119 (2004), 861-898; http://www.jstor.org/stable/25098704.

Miguel Costa-Gomes, Vincent Crawford, and Bruno Broseta, "Cognition and Behavior in Normal-Form Games: an Experimental Study," *Econometrica* 69 (2001), 1193-1235; http://www.jstor.org/stable/2692219 or http://dss.ucsd.edu/~vcrawfor/CGCrBr01EMT.pdf).
Miguel Costa-Gomes and Vincent Crawford, "Cognition and Behavior in Two-Person Guessing Games: An Experimental Study," *American Economic Review* 96 (2006), 1737-1768; http://www.jstor.org/stable/30034993 or http://dss.ucsd.edu/~vcrawfor/CGCAER06.pdf.
Miguel Costa-Gomes and Georg Weizsäcker, "Stated Beliefs and Play in Normal-Form Games," *Review of Economic Studies*, 75 (2008), 729-762; http://www.jstor.org/stable/20185053.
Miguel Costa-Gomes, Vincent Crawford, and Nagore Iriberri, "Comparing Models of Strategic Thinking in Van Huyck, Battalio, and Beil's Coordination Games," *Journal of the European Economic Association* 7 (2009), 377-387; http://dss.ucsd.edu/~vcrawfor/CGCIJEEA17Oct08.pdf.
Isabelle Brocas, Juan Carrillo, Stephanie Wang, and Colin Camerer, "Imperfect Choice or Imperfect Attention? Understanding Strategic Thinking in Private Information Games," Review of Economic Studies 81 (2014), 944-970; http://www-bcf.usc.edu/~brocas/Research/mousebetting.pdf or http://restud.oxfordjournals.org/content/81/3/944.full.pdf+html.
Erik Eyster and Matthew Rabin, "Cursed Equilibrium," *Econometrica*, 73 (2005), 1623-1672; www.jstor.org/stable/3598885.
Vincent Crawford and Nagore Iriberri, "Level-*k* Auctions: Can Boundedly Rational Strategic Thinking Explain the Winner's Curse and Overbidding in Private-Value Auctions?," *Econometrica* 75 (2007), 1721–1770; http://dss.ucsd.edu/~vcrawfor/CrawfordIriiberriEMT07.pdf or www.jstor.org/stable/4502047.
Vincent Crawford and Nagore Iriberri, "Fatal Attraction: Salience, Naivete, and Sophistication in Experimental Hide-and-Seek Games," *American Economic Review* 97 (2007), 1731-1750; http://www.jstor.org/stable/30034582.
Vincent Crawford, "Lying for Strategic Advantage: Rational and Boundedly Rational Misrepresentation of Intentions," *American Economic Review* 93 (2003), 133-149; http://dss.ucsd.edu/~vcrawfor/CrawAER03.pdf or http://www.jstor.org/stable/3132165.
Tore Ellingsen and Robert Östling, "When Does Communication Improve Coordination?," *American Economic Review* 100 (2010), 1695–1724; http://www.aeaweb.org/articles.php?doi=10.1257/aer.100.4.1695 .
Vincent Crawford, "Efficient Mechanisms for Level-*k* Bilateral Trading"; http://econweb.ucsd.edu/%7Ev2crawford/LkBilateralTrading12Jan16.pdf
Vincent Crawford, "New Directions for Modelling Strategic Behavior: Game-theoretic Models of Communication, Coordination, and Cooperation in Economic Relationships," *Journal of Economic Perspectives* 30 (2016), 131–150; https://www.aeaweb.org/articles?id=10.1257/jep.30.4.131
Vincent Crawford, "Modeling Strategic Communication: From Rendezvous and Reassurance to Trickery and Puffery", slides for Nancy L. Schwartz Memorial Lecture, April 2017; (video at https://www.kellogg.northwestern.edu/news-events/lecture/schwartz/speakers/2010-2019/2017.aspx)
Vincent Crawford, "Experiments and Game Theory: Cognition, Communication, Coordination, and Cooperation in Relationships," *Annual Review of Economics* 11 (2019); http://econweb.ucsd.edu/%7Ev2crawford/ExperimentsAndGameTheoryAnnualReview19Revised.pdf

**Other Material on Behavioural Decision Theory (not covered by me this year)**

**Present-Bias and Time-Inconsistency in Intertemporal Choice**

*George Loewenstein and Richard Thaler, "Anomalies: Intertemporal Choice," *Journal of*

*Economic Perspectives* 3 (1989), 181-193; http://www.jstor.org/stable/1942918

Shane Frederick, George Loewenstein, and Ted O'Donoghue, "Time Discounting and Time Preference: A Critical Review," *Journal of Economic Literature* 40 (2002), 351-401; Chapter 6 in *Advances*; http://www.jstor.org/stable/2698382 or http://www.hss.caltech.edu/~camerer/NYU/03-LowensteinODonoghueFrederick+.pdf

*Ted O'Donoghue and Matthew Rabin, "Doing it Now or Later," *American Economic Review* 89 (1999), 103–124; Chapter 7 in *Advances*; http://www.jstor.org/stable/116981

Ted O'Donoghue and Matthew Rabin, "Incentives for Procrastinators," *Quarterly Journal of Economics* 114 (1999), 769-816; http://www.jstor.org/stable/2586884

Ted O'Donoghue and Matthew Rabin, "Choice and Procrastination," *Quarterly Journal of Economics* 116 (2001), 121-160; http://www.jstor.org/stable/2696445

David Laibson, "Golden Eggs and Hyperbolic Discounting," *Quarterly Journal of Economics* 112 (1997), 443-478; Chapter 15 in *Advances*; http://www.jstor.org/stable/2951242

George-Marios Angeletos, David Laibson, Andrea Repetto, Jeremy Tobacman, and Stephen Weinberg, "The Hyperbolic Consumption Model: Calibration, Simulation, and Empirical Evaluation," *Journal of Economic Perspectives* 15 (2002), 47-68; http://www.jstor.org/stable/2696556 or http://www.hss.caltech.edu/~camerer/NYU/03-Angeletos.pdf

Dan Ariely and Klaus Wertenbroch, "Procrastination, Deadlines, and Performance: Self-Control by Precommitment," *Psychological Science*, 13 (2002): 219-224; http://pss.sagepub.com/content/13/3/219.short

Jesse Shapiro, "Is There a Daily Discount Rate? Evidence from the Food Stamp Nutrition Cycle," *Journal of Public Economics*, 89 (2005): 303-25; http://dx.doi.org/10.1016/j.jpubeco.2004.05.003

Sharon Oster and Fiona Scott Morton, "Behavioral Biases Meet the Market: The Case of Magazine Subscription Prices," *Advances in Economic Analysis & Policy* 5 (2005), Article 1; http://www.bepress.com/bejeap/advances/vol5/iss1/art1

Stefano DellaVigna and Ulrike Malmendier, "Paying Not To Go To the Gym", *American Economic Review*, 96 (2006): 694-719; http://www.jstor.org/stable/30034067

*Kfir Eliaz and Ran Spiegler, "Contracting with Diversely Naïve Agents," *Review of Economic Studies* 73 (2006), 689-714; www.jstor.org/stable/20185025

*Paul Heidhues and Botond Kőszegi, "Exploiting Naivete about Self-Control in the Credit Market," *American Economic Review* 100 (2010), 2279-2303; http://dx.doi.org/10.1257/aer.100.5.2279 or http://elsa.berkeley.edu/~botond/credit.pdf

Hanming Fang and Yang Wang, "Estimating Dynamic Discrete Choice Models with Hyperbolic Discounting, with an Application to Mammography Decisions", *International Economic Review* 56 (2015), 565-596; http://economics.sas.upenn.edu/~hfang/WorkingPaper/wang/hyperbolic12-REStud-R1.pdf or http://onlinelibrary.wiley.com/doi/10.1111/iere.12115/epdf.

**Probabilistic Judgment**

*Amos Tversky and Daniel Kahneman, "Judgment under Uncertainty: Heuristics and Biases," *Science* 185 (1974), 1124 – 1131; http://www.jstor.org/stable/1738360

Colin Camerer, pages 590-616 of Individual Decision Making, Chapter 8 in John Kagel and Alvin Roth, editors, *Handbook of Experimental Economics*, Princeton 1995

Dale Griffin and Amos Tversky, "The Weighing of Evidence and the Determinants of Confidence," *Cognitive Psychology* 24 (1992), 411-435; http://synapse.princeton.edu/~sam/griffin_tversky92_cognitive_psychology_weighing-evidence-confidence.pdf

*Matthew Rabin, "Inference by Believers in the Law of Small Numbers," *Quarterly Journal of Economics* 117 (2002), 775-816; http://www.jstor.org/stable/4132489

Matthew Rabin and Dimitri Vayanos, "The Gambler's and Hot-Hand Fallacies: Theory and Applications," *Review of Economic Studies* 77 (2010), 730-778; https://www.jstor.org/stable/pdf/40587644.pdf

Joshua Miller and Adam Sanjurjo, "Surprised by the Gamblers and Hot Hand Fallacies? A Truth in the Law of Small Numbers", *Econometrica* in press; http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2627354

Joshua Miller and Adam Sanjurjo, "A Primer and Frequently Asked Questions for 'Surprised by the Gamblers and Hot Hand Fallacies? A Truth in the Law of Small Numbers'"; https://ssrn.com/abstract=2728151 or http://dx.doi.org/10.2139/ssrn.2728151; also see http://fae.ua.es/FAEX/the-hot-hand-is-back/

Benjamin, Daniel J., Collin Raymond, and Matthew Rabin, "A Model of Non-Belief in the Law of Large Numbers," *Journal of the European Economic Association* 14 (2016), 515–544; https://benjamin.economics.cornell.edu/Barney2014-12-11_Body.pdf

Linda Babcock and George Loewenstein, "Explaining Bargaining Impasse: The Role of Self-Serving Biases," *Journal of Economic Perspectives* 11 (1997), 109-126; Chapter 11 in *Advances*; http://www.jstor.org/stable/2138254

Henry Blodget, "Wall Street Self-Defense**:** Born Suckers: The Greatest Wall Street Danger of All: You," *Slate*, December 14, 2004 (amusing optional reading) http://dss.ucsd.edu/~vcrawfor/WallStreetBiases.html

Leonard Mlodinow, "Meet Hollywood's Latest Genius: Then again, in 6 months he could be a loser. Box-office success is more random than you may think," Los Angeles *Times*, July 2, 2006 (amusing optional reading) http://dss.ucsd.edu/~vcrawfor/la-tm-random27jul02,1,1850294,full.story.html

**Other Material on Behavioural Game Theory (not covered this year)**

**Adaptive Learning: Reinforcement, Beliefs-Based, and Experience-Weighted Attraction**

**BGT*, Chapter 3, Mixed-Strategy Equilibrium Games; Chapter 6, Learning; Sections 7.4, Payoff-Asymmetric Order-Statistic Games; 7.6, Applications: Path-Dependence, Market Adoption, and Corporate Culture; 8.1, Simple Signaling Games and Adaptive Dynamics; and 8.4, Conclusion

*TE*, Sections 2.3, 2.4, and 6

Vincent Crawford, "Learning Dynamics, Lock-in, and Equilibrium Selection in Experimental Coordination Games," in Pagano and Nicita, editors, *The Evolution of Economic Diversity*, London and New York: Routledge, 2001, 133-163; http://dss.ucsd.edu/~vcrawfor/ucsd9719.pdf

Ido Erev and Alvin E. Roth, "Predicting how people play games: Reinforcement Learning in Experimental Games with Unique, Mixed Strategy Equilibria," *American Economic Review* 88 (1998), 848-881; http://www.jstor.org/stable/117009

Vincent Crawford, "Adaptive Dynamics in Coordination Games," *Econometrica* 63 (1995), 103-143; http://www.jstor.org/stable/2951699 or http://dss.ucsd.edu/~vcrawfor/Crawford95EMT.pdf

Vincent Crawford and Bruno Broseta, "What Price Coordination? The Efficiency-enhancing Effect of Auctioning the Right to Play," *American Economic Review* 88 (March 1998), 198-225; http://www.jstor.org/stable/116825 or http://dss.ucsd.edu/~vcrawfor/CrawBro98AER.pdf.

Colin Camerer and Teck-Hua Ho, "Experience-weighted Attraction Learning in Normal Form Games," *Econometrica* 67 (1999), 827-874; http://www.jstor.org/stable/2999459

Colin Camerer and Teck-Hua Ho, "Experience-Weighted Attraction Learning in Coordination Games: Probability Rules, Heterogeneity, and Time-Variation," *Journal of Mathematical Psychology* 42 (1998), 305-326; http://dx.doi.org/10.1006/jmps.1998.1217.

Crawford, "Introduction to Experimental Game Theory," *Journal of Economic Theory*, 104 (2002), 1-15, especially 8-12; http://dx.doi.org/10.1006/jeth.2001.2909 or http://weber.ucsd.edu/%7Evcrawfor/IntroEGTSym.html

Camerer, Ho, and Juin-Kuan Chong, "Sophisticated Experience-Weighted Attraction Learning and Strategic Teaching in Repeated Games," *Journal of Economic Theory*, 104 (2002), 137-188; http://dx.doi.org/10.1006/jeth.2002.2927 or http://www.hss.caltech.edu/~camerer/jeth2927.pdf

Dale Stahl, "Boundedly Rational Rule Learning in a Guessing Game," *Games and Economic Behavior* 16 (1996), 303-330; http://dx.doi.org/10.1006/game.1996.0088

**Bargaining**

**BGT*, Chapter 4.1, Unstructured Bargaining
**TE*, Section 5.3, Unstructured Bargaining
Thomas Schelling, *The Strategy of Conflict*, Oxford 1960 or Harvard 1980: Chapter 3, Bargaining, Communication, and Limited War, and Appendix C
Alvin Roth, "Bargaining Phenomena and Bargaining Theory," Chapter 2 in Roth (ed.), *Laboratory Experimentation in Economics: Six Points of View*, Cambridge, 1987
Alvin Roth, "Toward a Focal-Point Theory of Bargaining," Chapter 12 in Roth, (ed.), *Game-Theoretic Models of Bargaining*, Cambridge, 1985