# Nathan Hancart

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| Current Position | **PhD Candidate in Economics**, University College London<br>Expected Completion: 2023 | 2018 – present |
| Fields | Primary: Microeconomic Theory<br>Secondary: Information Economics, Behavioural Economics | |
| Supervisors | Prof. Ran Spiegler  Prof. Vasiliki Skreta | |
| Prior Education | **MRes** in Economics, University College London | 2018 |
| | **MSc** in Economics, University College London | 2017 |
| | **BSc** in Business Engineering, Université Libre de Bruxelles | 2016 |

Job Market Paper

**Optimal Menus of Tests**

I study the optimal design of menus of tests. Prior to taking a binary decision, accept or reject a privately informed agent, a decision-maker (DM) can perform one test from a restricted set. For example, the restriction can come from information processing or technological constraints. The DM wants to accept a subset of types whereas the agent always wants to be accepted. Instead of choosing the test himself, the DM let the agent choose a test from a menu. The choice itself then serves as an additional dimension for information revelation. I characterise when a menu is optimal and show that the DM does not benefit from committing to an action. Using this result, I characterise the optimal menu when the DM has a most informative test. I give conditions on the DM's preferences under which the DM wants or does not want to include a less informative test in the menu. I also characterise the optimal menu when types are multidimensional or when tests vary in their difficulty.

Working Paper

**Managing the Expectations of Buyers with Reference-dependent Preferences**

*R&R at Journal of Economic Theory*

I consider a model of monopoly pricing where a risk-neutral firm makes an offer to a buyer with reference-dependent preferences. The reference point is the ex-ante probability of trade and the buyer exhibits an attachment effect: the higher his expectations to buy, the higher his willingness-to-pay. When the buyer's valuation is private information, a unique equilibrium exists where the firm plays a mixed strategy and its profits are the same as in the reference-independent benchmark. The equilibrium always entails inefficiencies: even as the firm's information converges to complete information, it mixes on a non-vanishing support and the probability of no trade is greater than zero. Finally, I show that when the firm can obtain costless signals on the buyer's valuation, it can do strictly better than in the reference-independent benchmark by leveraging the uncertainty generated by a noisy learning strategy. However, this advantage vanishes as the attachment effect grows large.

**The (No) Value of Commitment**

I provide a sufficient condition under which a principal does not benefit from commitment in economic situations that can be described by a constrained maximisation problem. I then apply this condition in a mechanism design setting. A designer does not benefit from being able to contract over actions when his preferences are partially aligned with the agent's. Verifying the condition does not necessitate verifying explicitly that the strategy under commitment is a best-response to the information revealed in the economic problem.

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| Teaching | **Microeconomics** (MRes, UCL) | 2018 – present |
| | **Advanced Microeconomic Theory** (MSc, UCL) | 2018 – 2020 |
| | **Economics of Information** (BSc, UCL) | 2017 – 2019 |
| Honors & Awards | Award for best Teaching Assistant on an MRes module, UCL | Jun 2022 |
| | Nominated for Inspiring Teaching Delivery, Student Choice Award, UCL | Jun 2020 |

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| Referee Service | Theoretical Economics | |
| Professional Experience | Research assistant for Prof. Ran Spiegler | Apr 2018 – 2022 |
| | Research assistant for Prof. Vasiliki Skreta | 2019 – 2022 |
| | Student Representative for PhD students at the Economics Department | 2017 – 2022 |
| Presentations | Asian School in Economic Theory (National University of Singapore/Econometric Society, 2022), International Conference on Game Theory (Stony Brook, 2022), Brown-bag theory seminar (UCL, 2022/2021), World Congress Game Theory Society (Budapest, 2021), Applied Theory Workshop (Toulouse School of Economics, 2020) | |
| Languages | French (Native), English (Fluent), Dutch (Basic), Hebrew (Basic) | |
| Software Skills | Mathematica, Matlab | |