Research Statement

I am a microeconomic theorist. My research studies political institutions, the design of certificates and tests, social learning and questions of behavioral economics.

Elections: How do voters form political beliefs and choose their political information? Going further, how does the belief formation and the –possibly heterogeneous– quality of the voters information shape political outcomes? And what are the pitfalls that we should be aware of: how might voters be manipulated or exploited by interested parties?

My job market paper *"Conflicting Interests and Information Acquisition in Elections"*, starts from the empirical observation that, voters that care more about an election are, typically, better informed ("issue publics hypothesis", Krosnick 90); in particular, the information of the voters is endogenous. What is the systematic effect of such (endogenous) heterogeneity in the quality of information that voters hold? Typical models of elections, where voters have conflicting interests, predict that the median voter outcome will be elected in equilibrium. This is often not the first-best outcome: for example, when 51% of the citizens benefit from a reform marginally, but at the same time 49% of the citizens are impaired by it severely. In my model, voters with more exposure to the election are better informed and this shifts outcomes into a direction that improves social welfare, from the median towards the mean of the voters preferences. Somewhat surprisingly, simple majority elections can choose outcomes that are preferred by only a minority of the voters, but only if this is welfare-improving. The main result shows that for a large class of settings, there are equilibria where welfare-maximizing outcomes are elected, unless the cost of information are too extreme (too low or too high). The model makes further several novel predictions: the polarization of the voters' preference intensities matters for election outcomes, and restricting the 'richness of the voters information choice might lead to welfare-improvements.
In another paper, called *"Persuasion and Information Aggregation in Elections"*, and co-authored with Stephan Lauermann, we start from the basic observation that, in most election settings, for some voters, the ranking of alternatives depends on her information. An interested party that has private information may utilize this fact by strategically releasing information to affect the voters' behavior. Examples of interested parties holding and strategically releasing relevant information for voters are numerous: in a shareholder vote, the management may strategically provide information about the merger through presentations and conversations; similarly, lobbyists provide selected information to legislators to influence their vote. We study the scope of such "persuasion (Kamenica and Gentzkow, 2011) in elections, in a setting, where absent strategic information provision, election outcomes

are equivalent to the outcome with publicly known states ("information aggregatio"). We show that just by providing additional information, a manipulator can implement any target policy: for example, he can implement, in every state, the opposite of the outcome with full information.
On the topic of voting and elections, my future and ongoing research will be structured in two lines: first, I will study mechanisms of direct democracy such as petitions and referenda. In the paper, called *"Political Uncertainty, Signaling and Referenda"*, and co-authored with my fellow student Deniz Kattwinkel, we point out a mostly unnnoticed difficulty of collective-choice mechanisms: often, new policies involve larger uncertainty relative to the status quo and their implementation is subject to more discretion by politicians. This creates one-sided signaling incentives. When politicians with misaligned preferences have full discretion, babbling is the only outcome (Battaglini, 2017). We show that, with intermediate discretion, there is oversignaling by the voters. In the case of a referendum, when the politician is biased against the referendum, this can imply that the referendum always passes, even in the situations where all citizens and politicians prefer it not to.
Second, I plan to further analyze models of strategic information provision to voters. One focus will be on settings where interested parties compete in supplying information to voters. Early results show that a simple model of competitive persuasion of voters through public signals is equivalent to a class of all-pay-contests. In the future, I plan to leverage this equivalence in more general settings to understand how competition shapes the information provision to voters.

Test Design. In many markets, the information provided by participants is not only cheap talk. Often, on both sides of the market, additional information arises: in the form of certificates, that is hard evidence, or from tests of quality.
My co-author Deniz Kattwinkel and I investigate the relevance of this observation in a particular instance (paper: *"Strategic Understatements"*) that relates to the following question: how should societies make use of tests or certificates in labor markets? Importantly, which tests and certificates are effective, (even) if we take into account that job candidates make strategic use of the evidence that they hold of their own quality and that employers might perform additional, costly tests on the candidates. We show, that, depending on the design of the test, there is a motive for 'strategic understatements, similar to countersignaling (Harbaugh, Feltovich, 2001): when tests are too 'selective, candidates of very high quality will likely possess evidence of their quality, but will abstain from presenting it to employers to motivate these to costly investigate their very high type.
The paper is a conceptual example on how relaxing the assumption that agents can commit to a strategy of costly testing -which is prevalent in the literature on mechanisms with costly verification (Ben-Porath, Dekel and Lipman, 2014)– can make problems of costly verification sometimes much more tractable. We believe that our approach might be useful, particularly in multidimensional settings. Besides, we plan to study further questions related to test design: for example, both the design of product tests and the disclosure of their results is often at the discretion

of firms. This leads to inefficient testing and inefficient information provision (DeMarzo, Kremer and Skrzypazcs, 2019). If regulators could inspect the firms at a cost, how should they do that? What are the cost of restoring efficiency?

Social Learning. How much can individuals learn from the choices of others about a pay-off relevant state when the set of persons that is observed depends on the state itself? For example, a low quality restaurant might serve customers more slowly, producing long queues. In such a situation, a newly arriving customer faces an inference problem: is the queue long because the restaurant is good or because it is bad? Early results show that even a minimal state-dependence of observations leads to "confounded learning" (Smith and Sorensen, 2001) in the canonical social learning model. Based on these early results, I plan to study richer settings of social learning with state-dependent observations where the state-dependence is endogenous: e.g. the bad restaurant might decide to serve slowly to benefit from the inference problem, however, at the cost of foregoing some customers that could otherwise be served as well. Intuitively, the incentives of doing so are higher for the bad restaurant than for a good restaurant such that, in fact, the inference problem might be sustained in equilibrium.

I have done work in behavioral economics that demonstrates how synergetic theory and data can work together:

Behavioral Economics. Individuals can often inquire about how their decisions would affect others. When do they stop the inquiry if they prefer one of their options for selfish reasons?
In the paper *"Motivated Information Acquisition in Social Decisions"*, co-authored with my fellow student Si Chen, we provide causal evidence with a laboratory experiment for the following behaviour: when having a selfishly preferred option, individuals are more likely to continue inquiring about the consequences of their decisions if the information received up to that point predominantly suggests that behaving selfishly harms others. In contrast, when the information up to that point predominantly suggests that being selfish harms nobody, individuals continue acquiring information in a similar manner to those without a preferred option. Drawing on the Bayesian persuasion model of Kamenica and Gentzkow (2011), we propose a theoretical model showing that this information acquisition strategy can be optimal for a Bayesian agent who values the belief that she does not harm others, but attempts to persuade herself to behave self-interestedly. The model predicts that, surprisingly, strategic information acquisition motivated by self-interest can reduce the decisions' resulting negative externalities and improve the welfare of the affected others. This prediction was indeed found to be the case in our experiment.
In another paper with Si Chen, called *"A Non-Parametric Elicitation of Probability Weights"*, we developed a novel non-parametric method that trades off risk with delay to elicit individuals probability weighting function that can be applied to settings without monetary payoffs.