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DOCTORAL STUDIES

Massachusetts Institute of Technology (MIT)
PhD, Economics, Expected completion June 2025
DISSERTATION: "Essays on Information Economics"

DISSERTATION COMMITTEE AND REFERENCES

Professor Stephen Morris
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Professor Olivier Gossner
École Polytechnique Department of Economics
LSE Department of Mathematics
ogossner@gmail.com

PRIOR EDUCATION

École Polytechnique		2019
Master in Economics		
London School of Economics and Political Science		2016
M.Sc. Applicable Mathematics		
Maastricht University		2015
B.Sc. Economics and Business Economics		

CITIZENSHIP   German   **GENDER:**   Male

LANGUAGES   English, German, Spanish and French

MIT Economics

FIELDS	Primary Field: Microeconomic Theory	
TEACHING EXPERIENCE	Contract and Information Economics, MIT (graduate)	2021-23
	Teaching Assistant to Professors Stephen Morris and Ian Ball	
	Advanced Contract Theory, MIT (graduate)	2023
	Teaching Assistant to Professor Robert Townsend	
	Organizational Economics, MIT (graduate)	2022
	Teaching Assistant to Professors Robert Gibbons, Namrata Kala and Charles Angelucci	
	Principles of Macroeconomics, MIT (undergraduate)	2022
	Teaching Assistant to Professor Ricardo Caballero	
	Mathematical Economic Modeling, MIT (undergraduate)	2022
	Teaching Assistant to Professor Nicolas Lambert	
	Principles of Economics, École Polytechnique (undergraduate)	2019
	Teaching Assistant to Professors Olivier Gossner and Jean-Baptiste Michau	
RELEVANT POSITIONS	Research Assistant to Professor Stephen Morris	2019
	OECD, Consultant	2018
PRESENTATIONS	*SAET, LSE, One World Mathematical Game Theory Seminar, Institut Henry Poincaré, Stony Brook conference in Game Theory, CREST, PSE, Transatlantic Theory Workshop.*	
GRANTS	Main external collaborator in ERC advanced grant, "SInfoNiA" with Olivier Gossner.	

MIT Economics

**RESEARCH
PAPERS**

"Limits of Global Games" (Job Market Paper)

Games with strategic complementarities often exhibit multiple equilibria. In a global game, players privately observe a noisy signal of the underlying payoff matrix. As the noise diminishes, a unique equilibrium is selected in almost all two-player, binary-action games with strategic complementarities - a property known as ``limit uniqueness.'' This paper describes the limits of that approach as we move beyond two actions. Unlike binary-action games, limit uniqueness is not an intrinsic feature of all games with strategic complementarities. We demonstrate that limit uniqueness holds if and only if the payoffs exhibit a generalized ordinal potential property. Moreover, we provide an example illustrating how this condition can be easily violated.

"Information Design for Rationalizability" (with Olivier Gossner)

We study (interim correlated) rationalizability in games with incomplete information. For each given game, we show that a simple and finitely parameterized class of information structures is sufficient to generate every outcome distribution induced by general common prior information structures. In this parameterized family, players observe signals of two kinds: A finite signal and a common state with additive, idiosyncratic noise. We characterize the set of rationalizable outcomes of a given game as a convex polyhedron.

"A Strategic Topology on Information Structures" (with Stephen Morris and Dirk Bergemann)

Two information structures are said to be close if, with high probability, there is approximate common knowledge that interim beliefs are close under the two information structures. We define an "almost common knowledge topology" reflecting this notion of closeness. We show that it is the coarsest topology generating continuity of equilibrium outcomes. An information structure is said to be simple if each player has a finite set of types and each type has a distinct first-order belief about payoff states. We show that simple information structures are dense in the almost common knowledge topology and thus it is without loss to restrict attention to simple information structures in information design problems.

"Strategic Type Spaces" (with Olivier Gossner)

We provide a strategic foundation for information: in any given game with incomplete information we define strategic quotients as information representations that are sufficient for players to compute best-responses to other players. We prove 1) existence and essential uniqueness of a minimal strategic quotient called the Strategic Type Space (STS) in which a type is given by an interim correlated rationalizability hierarchy together with the set of beliefs over other players' types and nature that rationalize this hierarchy 2) that this minimal STS is a quotient of the universal type space and 3) that the minimal STS has a recursive structure that is captured by a finite automaton.

RESEARCH IN PROGRESS

"Robust Information Aggregation"

Consider an investment problem with strategic complementarities and incomplete information about returns. This paper shows that investors aggregate their private information in equilibrium by trading a token and observing its market price over multiple rounds before making an investment decision. This result is robust to the information environment. The paper gives an explicit trading protocol that robustly implements information aggregation and establishes properties of all such trading equilibria: Agents encode their private information in terms of a finite algebraic basis (e.g. prime numbers) that spans the set of equilibrium token prices. Finally, the paper discusses the general implications of this result for privacy and the implementation of robust information aggregation.

"Welfare and Robustness in Matching and Information Design"

We characterize the welfare optimal matching and disclosure procedure that implements asset trades between risk averse buyers and risk neutral sellers. Full disclosure is optimal if the designer knows agents' types - i.e. their beliefs and higher order beliefs. When types are private information, incentive constraints imply that the information structure induced by the optimal matching and disclosure rule is a Global/Email Game. This result highlights the trade-off between welfare and robustness in the joint problem of matching and information design, under private information.