Julien Lie-Panis

POST-DOCTORAL RESEARCHER · DYNAMICS OF SOCIAL BEHAVIOR GROUP

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I am a mathematical social scientist studying the psychological mechanisms that enable large-scale cooperation, with applications to cultural diversity, norms, and institutions.

Academic experience

2023-	**Post-doc at the Max Planck Institute for Evolutionary Biology,** advised by Christian Hilbe
	Bayesian Games, Evolutionary Simulations, Cooperation, Social Cognition.
	Visiting the *Paris Institute of Political Studies* (Sciences Po), invited by Lou Safra (half the time).
2019-2023	**PhD at École normale supérieure & Telecom Paris,** advised by Jean-Baptiste André & Jean-Louis Dessalles
	Dissertation: *Models of reputation-based cooperation. Bridging the gap between reciprocity and signaling.*
	Honest Signaling, Evolutionary Game Theory, Experimental Psychology, Cooperation, Institutions, Revenge.
	Visited *Harvard Psychology*, invited by Bethany Burum (1 month).
	Visited the *Max Planck Institute for Evolutionary Biology*, invited by Moshe Hoffman (1 month).
2018-2019	**Intern at Telecom Paris,** Agent-Based Modeling, advised by Jean-Louis Dessalles
2013-2014	**Research Assistant at Johns Hopkins University,** Macroeconomics, advised by Filippo Taddei

Education

2019-2023	**PhD in Cognitives Sciences,** Université Paris Cité
2018-2019	**Masters in Cognitive Sciences,** École normale supérieure, Paris
	Modeling Track. Selected coursework: Evolutionary Anthropology; Social Cognition; Decision Sciences.
2013-2015	**Masters in International Relations,** Johns Hopkins University, Bologna & Washington D.C.
	Middle East Studies. Selected coursework: Arabic (C1); Sociology of Conflict; Nations, States and Nationalism.
2010-2013	**Masters in Mathematics and Economics,** École polytechnique, Palaiseau, France
	2012-2013: Economics Research Speciality. Selected coursework: Game Theory; Econometrics; Decision Theory.
	2010-2012: Generalist Scientific Curriculum. Selected coursework: Quantum Mechanics; Distribution Theory.
2007-2010	**Undergraduate program in Mathematics & Physics,** Classe préparatoire du Lycée Charlemagne, Paris

Publications

Published

Lie-Panis, J., Fitouchi, L., Baumard, N. & André, J.-B. (2024) The social leverage effect: Institutions transform weak reputation effects into strong incentives for cooperation. *Proceedings of the National Academy of Sciences.*

Lie-Panis, J. & André, J.-B. (2024). Peace is a form of cooperation, and so are the cultural technologies which make peace possible. *Behavioral and Brain Sciences* [Commentary on Glowacki].

Lie-Panis, J. & Dessalles, J.-L. (2023). Runaway signals: Exaggerated displays of commmitment may result from second-order signaling. *Journal of Theoretical Biology.*

Lie-Panis, J. & André, J.-B. (2022). Cooperation as a signal of time preferences. *Proceedings of the Royal Society B.*

Work in progress

Lie-Panis, J., Burum, B., Hilbe, C. & Hoffman, M. (in prep.) The repeated punishment game explains why, and when, we seek revenge.

Lie-Panis, J., André, J.-B. & Miton, H. (in prep.) Professionals of trust: Intermediation creates incentives for reliabiltiy, extending trade

Lie-Panis, J. & Hilbe, C (in prep.). Investing in cooperation.

Awards and Fellowships

2024	**Finalist, New Investigator Award**, Human Behavior and Evolution Society	
2019	**PhD Fellowship**, EURIP Graduate School for Interdisciplinary Research (chosen)	
	Three years of funding for an interdisciplinary PhD. 2 fellowships awarded, over 50 candidates.	
2019	**PhD Fellowship**, Telecom Paris, btw. Social & Computer science departments (declined)	
2015	**Language Study Grant**, Rotschild Foundation	*1 000 €*
2014	**Masters Scholarship**, Johns Hopkins University	*10 000 $*
2013	**Masters Scholarship**, Johns Hopkins University	*11 800 €*

Presentations

Invited Talks

2025, Paris Institute of Political Studies (PI: Lou Safra). *The social leverage effect: Institutions transform weak reputation effects into strong incentives for cooperation*.

2024, Massachusets Institute of Technology (PI: Rebecca Saxe). *Trust, institutions and revenge: What game theory can tell us about how we cooperate.*

2024, Dartmouth College (PI: Feng Fu). *The social leverage effect: Institutions transform weak reputation effects into strong incentives for cooperation.*

2023, Max Planck Institute for Evolutionary Biology (PI: Christian Hilbe). *Making the most of reputation.*

2022, Workshop on Evolution, cognition and culture, France. Short talk: *Making the most of reputation*.

Contributed Presentations

2024, French Society for Evolutionary Human Sciences, France. Short talk: *Investing in cooperation*.

2024, International Conference on Social Dilemmas, Netherlands. Talk: *The repeated punishment game explains why, and when, we seek revenge*.

2024, Human Behavior and Evolution Society, Denmark. Talk for the New Investigator Award: *The social leverage effect: Institutions transform weak reputation effects into strong incentives for cooperation*.

2023, Evolution and Human Behaviour European Association, United Kingdom. Talk: *The repeated punishment game explains why, and when, we seek revenge*.

2022, French Society for Evolutionary Human Sciences, France. Short talk: *Reputation generates large-scale institutions*.

2022, Evolution and Human Behaviour European Association, online. Poster: *Second-order cooperation*.

2022, Human Behavior and Evolution Society, online. Poster: *Cooperation as a signal of time preferences*.

2021, Evolution and Human Behaviour European Association, online. Talk: *Cooperation as a signal of time preferences*.

2020, French Society for Evolutionary Human Sciences, France. Short talk: *Cooperation as a signal of time preferences*.

Teaching

Lecturer: Game Theory and Social Psychology. Created and taught a class on using Game Theory to understand the seemingly quirky features of human psychology. For the final year of the Sciences for a Sustainable World Undergraduate Program at PSL University (30 hours, 2022-2023).

Co-lecturer: Statistics. Taught four semesters of an empirical and question-driven approach to Statistics, with Valentin Thouzeau, for the same program at PSL University (96 hours, 2021-2023).

Co-lecturer: Programming. Taught four week-long workshops, based on Axelrod's cooperation tournament and a simulation of French energy prices, with Valentin Thouzeau, for the same program at PSL University (80 hours, 2021-2023).

Co-lecturer: Emergence in Complex Systems. Intervened during an international Masters level exchange program (ATHENS) at Telecom Paris, on using Evolutionary Game Theory to study altruism (c. 12 hours, 2021-2023).

Teaching assistant (2019-2022): Introduction to Evolutionary Anthropology (38 hours, Masters level, ENS Paris); Mathematics (c. 15 hours, Masters level, Telecom Paris); Three Computer Science classes (c. 50 hours, Masters level, Telecom Paris).

Miscellaneous

Mentoring

2 Masters students (2024), 1 Undergraduate (2021)

Reviewing

Behavioral and Brain Sciences (mentored), *Journal of Theoretical Biology*, *Nature Communications Psychology*, *PRX Life*

Events

Organized a symposium on Evolution, Reputation, and Human Social Behavior at ENS Paris (2023). Speakers: Pat Barclay, Mélusine Boon-Falleur, Francesca Giardini, Mia Karabegović, Eleanor A. Power.

Volunteered at the conference of the French Society for Evolutionary Human Sciences at ENS Paris (2023), along with two other students, and the organizer, Valentin Thouzeau.

Professional Development

Probabilistic Models of Cognition, on my own, using the online book developed by N. Goodman and J. Tenenbaum (2024).

Quantitative Social Sciences Summer School at the Institute for Advanced Study of Toulouse (2022)

Intensive Language Summer Programs in Hebrew (Ulpan Dalet, Tel Aviv University, 2015) and in Modern Standard Arabic and Levantine Dialect (French Institute for the Near East, Beirut, 2014)

Languages

I am bilingual in English and French, and out of practice, but formerly B2-C1 in Arabic, Levantine, Hebrew and Italian

Non-academic experience

Professional experience

2017-2018	**High School Teacher in Mathematics,** Lycée Colbert (4 months)	
2016-2017	**Analyst for the Public Sector,** BearingPoint France (4 months)	
2010-2013	**Internships**	
	Apr.-Jul. 2013: European Commission, DG ECFIN. Economic analysis, policy notes.	
	Jul.-Aug. 2012: D.R. Congo Savings and Credit Cooperative (MECRECO). Microfinance.	
	Jan.-May 2011: French Military Intelligence Agency (DRM).	

Volunteering

I have volunteered for many associations, including: *Bureau d'Accueil et d'Accompagnement des Migrants* (French language classes for asylum seekers, 2016-2018); *SAIS Francophone Association* (as president, 2014-2015); *X Microfinance* (in charge of communication, 2012; mission in Guatemala, 2011); *Polytechnique Student Bureau* (numerous campus-wide events, 2012); *Polytechnique Student Weekly Association* (which I created and presided); *Polytechnique Oenology Club*. I was awarded an 'Outstanding Investment' mention by École polytechnique.