



## Education

- 2022– **Ph.D. in Applied Mathematics**, *University Paris 1*, Paris, France  
 Present Dissertation: Theory of Fixed Points with Discontinuities and Applications in Game Theory  
 Advisor: Philippe Bich
- 2021–2022 **Master in Modeling and Mathematical Methods in Economics and Finance**,  
*University Paris 1*, Paris, France  
 Très bien  
 Master thesis: Fixed-Point Theorems for Discontinuous Mappings on Topological Vector Space.
- 2019–2021 **Master in Fundamentals Mathematics**, *University Paris 7*, Paris, France  
 Master thesis: Asymptotic of the Bergman kernel on a projective complex manifold.
- 2013–2017 **Bachelor in Mathematics**, *Ocean University of China*, QingDao, China

## Publications

- Lu Yu. Existence and structure of Nash equilibria for supermodular games. *Order*, pp.1-12, 2024.
- Lu Yu. Nash equilibria of quasisupermodular games. to appear in *Operations Research Letters*, accepted, 2024.
- Lu Yu. Notions of relative interior for compact convex sets. to appear in *Journal of Convex Analysis*, accepted, 2024.
- Lu Yu. Remarks on “some fixed point theorems for  $s$ -convex subsets in  $p$ -normed spaces”. *The Journal of Analysis*, Vol. 32, No. 2, pp. 1139-1143, 2023.
- Lu Yu. Generalization of Zhou fixed point theorem. *International Game Theory Review*, 2024.

## Preprints under review

- Lu Yu. The degree sequence of the preferential attachment model. minor revision in *Discrete Applied Mathematics*.
- Lu Yu. Order-theoretical fixed point theorems for correspondences and application in game theory. submitted.
- Lu Yu. Nash equilibria of games with generalized complementarities. submitted.
- Lu Yu. A degree theoretical proof of Singbal’s fixed point theorem. submitted.

## Preprints

- Philippe Bich and Lu Yu. A Brouwer-Tarski fixed-point theorem.
- Lu Yu. Monotone comparative statics of parameterized games.
- Lu Yu. Nash equilibria in discontinuous and non-quasiconcave games.
- Lu Yu. Existence of pure stationary equilibria for stochastic games.
- Lu Yu. Discounted stochastic game with unbounded costs on compact action spaces.

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## Invited talks

### *Conference*

2024.10.28-10.30 Young Researchers in Applied Mathematics conference, ENS Lyon, Lyon, France

2025.01.06-01.10 Asian School in Economic Theory, Abu Dhabi, the United Arab Emirates

### *Seminar*

2023.06.23 Mathematics Day in University Paris 1, Paris, France

2024.10.14 Paris Junior Game Theory Seminar, Institut Henri Poincaré, Paris, France

### *Workshop*

2024.07.10-07.12 Sorbonne Workshop in Economic Theory (poster session), Venice, Italy

2024.12.05-12.07 IX Hurwicz Workshop on Mechanism Design Theory( Chair for session Mathematical Economics ), Warsaw School of Economics, Banach Center, Warsaw, Poland

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## Teaching experience

2022 S1 **Mathematics foundation**, *Teaching assistant for exercise session 24h, 30 students*, University Paris 1

2022 S2 **Analysis mathematics**, *Teaching assistant for exercise session 24h, 30 students*, University Paris 1

2023 S2 **Analysis mathematics**, *Teaching assistant for exercise session 48h, 60 students*, University Paris 1

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## Skills

Programming Python, Matlab , C++,  $\text{\LaTeX}$

Languages English (B2), French (B2) , Chinese

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## Miscellaneous

I organized summer school mathematics courses for high school students.

I am passionate about swimming and roller skating.