Bruno Ziliotto

CONTACT INFORMATION	Paris Dauphine University (CEREMADE) Place du Maréchal de Lattre de Tassigny 75016 Paris bruno.ziliotto@cnrs.fr
RESEARCH INTERESTS	Repeated games, stochastic games with incomplete information, Markov decision processes, differential games, Hamilton-Jacobi equations, stochastic homogenization, mean field games, prophet inequalities, global games, game theory for climate.

POSITIONS

Paris Dauphine University, CEREMADE, 75016 Paris

CNRS Researcher in Mathematics (tenured position), since October 2016.

Postdoc. laureate of the "Fondation Sciences Mathématiques de Paris" (FSMP) Mathematics, Game Theory. Advisors: P. Cardaliaguet and R. Laraki   2015-16

EDUCATION

Paris Dauphine University

Habilitation à diriger des recherches, Mathematics, Game Theory, coordinated by P. Cardaliaguet: "Discrete-time games and applications to Hamilton-Jacobi equations", January 2022. Jury: P. Cardaliaguet, F. Forges, N. Immorlica, C. Rainer (referee), J. Renault, S. Sorin (referee), N. Vieille, O. Zeitouni (referee).

Toulouse School of Economics, 31000 Toulouse

Ph.D., Mathematics, Game Theory, *summa cum laude*, September 2015
- Thesis Topic: *Long-term equilibrium in dynamic games*
- Advisor: Prof. Jérôme Renault
- Jury: Jérôme Renault, Sylvain Sorin, Abraham Neyman (referee), Nicolas Vieille (referee), Dominique Bakry, Jérôme Bolte.

Ecole Normale Supérieure de Lyon, 69007 Lyon

M.S., Probability, with honors, September 2012

M.S., Macroeconomics, with honors, ranked 1st, September 2012

B.S., Mathematics, with honors, June 2010

Lycée Henri IV, 75005 Paris

Preparatory Class to Grandes Ecoles (MPSI and MP), 2006-2009

Admission to Ecole Normale Supérieure de Lyon (élève normalien), September 2009

VISITING STAYS

Center for Mathematical Modeling (CMM), Santiago Invited by Prof. Jose Correa.	Jan.-Dec. 23
Stony Brook University Invited by Prof. Eran Shmaya.	Jul. 22
Courant Institute, NYU Invited by Prof. Scott Armstrong.	Apr. 19

Northwestern University   Apr. 18
Invited by Prof. Eran Shmaya.

LUISS, Rome   Sep. 17, Mar. 22
Invited by Prof. Marco Scarsini.

Hebrew University of Jerusalem   Jul. 17
Invited by Prof. Abraham Neyman.

University of Chile, Santiago   Nov. 16, Mar. 18, Mar. 19, Dec. 19
Invited by Prof. Jose Correa and Prof. Mario Bravo.

IST Austria, Vienne   Apr. 16, May 18, Aug. 19
Invited by Prof. Krishnendu Chatterjee.

PUBLICATIONS

1. **Ziliotto, B.** (2023) "Mertens conjectures in absorbing games with incomplete information." preprint Arxiv https://arxiv.org/abs/2106.09405.
   To appear in Annals of Applied Probability.

2. Garnier, G. and **Ziliotto, B.** (2022) "Percolation Games."
   Published online in Mathematics of Operations Research.

3. Chatterjee K., Saona, R. and **Ziliotto, B.** (2022)
   "Finite-Memory Strategies in POMDPs with Long-Run Average Objectives."
   Mathematics of Operations Research, 47(1), 100-119.

4. Catoni, O. and Oliu-Barton, M. and **Ziliotto, B.** (2021)
   "Constant payoff in zero-sum stochastic games."
   Annales de l'IHP: Probabilités et Statistiques, 2021, 57(4), 1888–1900.

5. Correa R., Duetting P., Fischer F., Schewior K. and **Ziliotto B.** (2021)
   "Tight(er) Prophet Inequalities for Exchangeable Random Variables" Arxiv version:
   https://arxiv.org/abs/2007.06110.
   Innovations in Theoretical Computer Science, 2021.

6. Venel, X. and **Ziliotto, B.** (2021). "History-dependent Evaluations in Partially Observable Markov Decision Process".
   SIAM Journal on Control and Optimization, 2021, 59(2), 1730–1755.

7. Feldman, W., Fermanian J-B. and **Ziliotto, B.** (2021) "An example of failure of stochastic homogenization for viscous Hamilton-Jacobi equations without convexity".
   Journal of Differential Equations, 2021, 280, 464–476.

8. Baeriswyl, R., Cornand, C. and **Ziliotto, B.** (2020) "Communication policy of central banks under endogenous information"
   HAL: http://halshs.archives-ouvertes.fr/halshs-01340635.
   Journal of Money, Credit, and Banking, 2020, 52(8), 1973–2005.

9. Correa, J., Saona, R. and **Ziliotto, B.** (2021). "Prophet secretary through blind strategies".
   Mathematical Programming, 2021, 190, 483–521.
   The conference version of this paper has been published in
   Proc. of the Thirtieth Annual ACM-SIAM Symp. on Disc. Alg., 2019, 1946–1961.

10. Renault, J. and **Ziliotto, B.** (2020) "Limit equilibrium payoffs in Stochastic Games". Arxiv version: http://arxiv.org/abs/1407.3028.
    Mathematics of Operations Research, 2020, 45(3), 797–1192.

11. Renault, J. and **Ziliotto, B.** (2020) "Hidden stochastic games and limit equilibrium payoffs".
    Games and Economic Behavior, 2020, 124, 122–139.

12. **Ziliotto, B.** (2019) "Convergence of the solutions of the discounted Hamilton-Jacobi equation: a counterexample." Arxiv version: https://arxiv.org/abs/1801.06008.
    Journal de Mathématiques Pures et Appliquées, 2019, 128(8), 330–338.

13. **Ziliotto, B.** (2018). "Tauberian theorems for general iterations of operators: applications to zero-sum stochastic games".
    Games and Economic Behavior, 2018, 108, 486–503.

14. **Ziliotto, B.** (2017). " Stochastic homogenization of nonconvex Hamilton-Jacobi equations: a counterexample".
    Commun. Pure Appl. Math., 2017, 44(2), 70(9), 1798–1809.

15. **Ziliotto, B.** (2016). "Zero-sum repeated games: counterexamples to the existence of the asymptotic value and the conjecture maxmin=lim v(n)".
    Annals of Probability, 2016, 44(2), 1107–1133.

16. **Ziliotto, B.** (2016). "General limit value in stochastic games"
    International J. Game Theory, 2016, 45(1), 353–374.

17. **Ziliotto, B.** (2016). "A Tauberian theorem for nonexpansive operators and applications to zero-sum stochastic games".
    Mathematics of Operations Research, 2016, 41(4), 1522–1534.

18. Venel, X. and **Ziliotto, B.** (2016). "Pathwise uniform value in gambling houses and Partially Observable Markov Decision Processes".
    SIAM Journal on Control and Optimization, 2016, 54(4), 1859-2233.

19. Solan, E. and **Ziliotto, B.** (2016). "Stochastic games with signals". Chapter.
    In *Advances in Dynamic and Evolutionary Games*, 14, 77-94, Springer.

PREPRINTS

1. Kwon, J. and **Ziliotto, B.** (2023) "Blackwell's Approachability with Time-Dependent Outcome Functions and Dot Products. Application to the Big Match."
   preprint Arxiv https://arxiv.org/abs/2303.04956.

2. Cristi, A. and **Ziliotto, B.** (2023) "The optimal ratio in prophet secretary only requires a constant number of samples."
   preprint, available upon request.

AWARDS AND DISTINCTIONS

- Invited to give a plenary talk at the
  "33th Stony Brook International Conference on Game Theory" (300 participants)
  Jul. 22

- Invited to give a plenary talk at the
  "28th Stony Brook International Conference on Game Theory" (200 participants)
  Jul. 17

- Selected to give a public conference on Game Theory at "Académie des Sciences et Belles Lettres de Toulouse"   Jul. 17

- PhD award "Théodore Ozenne", awarded by "Académie des Sciences et Belles Lettres de Toulouse"   Dec. 16

GRANTS

- Selected to give the Lloyd Shapley Lecture at the Fifth World Congress of the Game Theory Society in Maastricht (600 participants)   Jul. 16

- PGMO PhD Award (Operations Research and Optimization prize)   Jul. 16

- Invited to the Applied Mathematics seminar (chair P.-L. Lions),
  Collège de France   Apr. 16

- PI of the ANR JCJC "Convergence of Zero-sum Games Dynamics"
  (CONVERGENCE)   22-26

- PI of the IMPT project "Carbon offsets for energy transition: a game-theoretic
  approach" (GREENPATH)   22-24

- Participant of a PGMO grant for a project on Games and Learning   20-22

- PI of PGMO grant for a project on Stochastic Games   18-21

- Member of the European Network for Game Theory (GAMENET)   16-now

- Participant of a PGMO grant for a project on Mean Field Games   16-18

- PI of a PEPS grant "Young researcher"   16-18

TEACHING EXPERIENCE

- PhD lectures on Prophet inequalities, LUISS   Mar. 2022

- *Mathematical Foundations of Game Theory*, lectures, Master 2 students and third-year students, Ecole Polytechnique   2016-23

- *Game Theory*, lectures, MSc students,
  Ecole Nationale des Ponts et Chaussées   2016-23

- *Introduction to Economics*, tutorials, Bachelor students,
  Ecole Polytechnique   2017-19

- *Functional Analysis*, Tutorial, MSc students (Paris-Dauphine University) 2017-18

- *Game Theory*, lectures, Undergraduate (Tunis-Dauphine University)   2016

- Various tutorials in Real Analysis, Linear Algebra and Optimization, for undergraduates
  (Toulouse School of Economics)   2013-2015

STUDENTS

- Yijun Wan, Postdoctoral student on stochastic games   2024

- David Lurie (Paris Dauphine University): PhD on algorithmic aspects of Markov
  Decision Processes, in partnership with Nyxair (CIFRE)   22-25

- Thomas Ragel (Paris Dauphine University): PhD on Stochastic games, co-supervised
  with R. Laraki and G. Vigeral   19-23

- Supervision of 7 M2 student thesis and 5 MSc student thesis   16-22

SOME PRESENTATIONS	• Probability Seminar, CMM, Santiago, Chile	Aug. 23
	• French Symposium on Game Theory, Grenoble, France	Jun. 23
	• Optimization Seminar, CMM, Santiago, Chile	Mar. 23
	• Workshop on Optimization, Learning and Games, Vina del Mar, Chile	Jan. 23
	• "International Conference on Game Theory" (plenary talk), Stony Brook	Jul. 22
	• Optimization seminar (SPO), IHP, Paris	Apr. 22
	• Workshop "Current Trends in Graph/Stochastic Games", Maastricht Uni.	Apr. 22
	• PDE seminar, Sapienza, Rome	Mar. 22
	• 6th World Congress of the Game Theory Society, online	Jul. 21
	• One-World Game Theory seminar, online	Oct. 20
	• Workshop on Dynamics & Information, Tel-Aviv University, Israël	Jan. 20
	• Bachelier seminar in Mathematical Finance, IHP, Paris	Jan. 20
	• PDE seminar, University of Santiago, Chile	Dec. 19
	• Information Theory Workshop at ISIT conference, Paris	Jul. 19
	• SMAI Congress, Guidel, France	May 19
	• Economic Theory Seminar, Yale	Apr. 19
	• Workshop on Network, Population and Congestion Games, IHP, Paris	Apr. 19
	• Industrial Engineering Seminar, University of Chile, Santiago	Mar. 19
	• Paris Symposium on Games, IHP, Paris	Jun. 18
	• Economic Theory seminar, Northwestern University	Apr. 18
	• PDE seminar, University of Chicago	Mar. 18
	• Operations Research Seminar at University of Chile, Santiago	Nov. 16, Mar. 18
	• Microeconomics seminar, University of Glasgow	Jan. 18
	• PGMO Conference, EDF lab	Nov. 17, Nov. 18
	• "International Conference on Game Theory" (plenary talk), Stony Brook	Jul. 17
	• Economic Theory seminar, LUISS, Roma	Feb. 17
	• Lloyd Shapley Lecture, Fifth World Congress of the Game Theory Society, Maastricht	Jul. 16
	• Applied Mathematics seminar (chair P.-L. Lions), Collège de France	Apr. 16

EDITORIAL ACTIVITY

- Associate editor for *Mathematics of Operations Research*, since 2023.

- Associate editor for *International Journal of Game Theory*, since 2016.

REFEREE REPORTS *Annals of Applied Probability, Review of Economic Studies, SIAM Journal on Control and Optimization, Mathematical Programming, Mathematics of Operations Research, Journal of Economic Theory, American Economic Journal: Microeconomics, Games and Economic Behavior, Journal of Applied Probability, Operations Research Letters, Int. J. Game Theory.*

ORGANIZATION

- Organization of a workshop on Stochastic Games at Stony Brook University
  Jul. 22

- Organization of the online international workshop
  "Games, Learning and Approachability" Jan. 21

- Organization of the Parisian Game Theory Seminar, IHP, Paris 2018-now

- Organization of the mini-symposium "Dynamic games"
  SMAI conference May 19

- Organization of the workshop "Dynamic games: discrete time, continuous time"
  3-day workshop in Fréjus Oct. 17, Oct. 19

- Organization of a session on stochastic games at the PGMO conference   Nov.18

COMMITTEES

- Jury member for the PGMO PhD Award   2023

- Member of the CEREMADE council   18-now

- 1 PhD referee (Hebrew University of Jerusalem) and 3 PhD committees (IST Austria, Universidad de Chile and ENS Paris-Saclay)

- 2 recruitment committees for an assistant professorship position in Mathematics (Paris 1 and Paris 2)