

Curriculum Vitae: Jérôme RENAULT

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Currently:

- 2009-: Professor in applied mathematics at Toulouse School of Economics, University Toulouse 1 Capitole. Promoted first-class by the National University Council in 2013, exceptional class by UT1 in 2018.
- 2019-: Chair Holder “Game Theory and Artificial Intelligence” within the new AI Toulouse Institute ANITI.
- Associate editor of the international journals *Mathematics of Operations Research* (since 2013) and *Journal of Dynamic and Games* (since 2012).
- Member of TSE recruiting committee, since 2012.
- Elected member of the council of the Game Theory Society (2017-2023).
- Elected member of the Administration Council of the University of Toulouse, 2020-2024.
- Member of the Pedagogical and Scientific Council of ESPE Toulouse (Ecole Supérieure du Professorat et de l’Education, 2019-).
- Member of the AI ANR project MaSDOL (Mathematics of Stochastic and Deterministic Optimization for Deep Learning, PI S. Gadat), 2019-2023.
- Member of the COST action (European Cooperation in Science and Technology) : GAMENET, 2017-2021.
- Member of the scientific council of the School for advanced studies of Luchon, since 2014.

Previously:

- 2017-2020: Director of the math department, University Toulouse 1 Capitole (~ 42 members among which 25 permanent).
- Associate Editor of *Dynamic Games and Applications*, 2011-2020.
- Member of the national Math ANR funding committee (2019, 2020)
- Member of the maths Phd fellowships attribution committee, mathematics doctoral school of Toulouse (EDMITT), 2020.
- 2012-2015: Director of the CNRS Research Group 2932 JEMMA “Game Theory: Mathematical modeling and applications”. With 29 teams and 110 members in France. With P. Cardaliaguet (Paris-Dauphine) and N. Vieille (HEC).
- 2008-2009: Game Theory chair at Ecole Polytechnique, via the Decision Sciences group X-HEC-ENSAE. Member of the Economic Department and CMAP (Applied Maths Center) at Ecole Polytechnique.
- 2007-2008: Temporary position at the French research agency CNRS (math section) within CEREMADE (Centre de Recherches en Mathématiques de la Décision) at University Paris-Dauphine.
- 1999-2008: Assistant professor in applied mathematics at University Paris-Dauphine and CEREMADE. 1998-1999: Temporary position (ATER) at Paris-Dauphine. 1995-1998: PhD student University Paris I.

Contents

1	Research production	2
2	Animation of research	6
3	Conferences - Seminars - Visits	12
4	Teaching	17
5	Cursus	21
6	Miscellaneous	21

1 Research production

Main fields of interest: game theory, optimization and control, discrete-time stochastic processes, economic theory and artificial intelligence.

Publications:

- (1) Repeated Proximity Games, with T. Tomala, International Journal of Game Theory, 1998, vol.27, pp. 539-559. Characterization of equilibrium payoffs in a certain class of repeated games with complete information.
- (2) 2-player repeated games with lack of information on one side and state independent signalling. Mathematics of Operations Research, November 2000, volume 25, number 4, pp. 552-572. Proof of the existence of equilibria in repeated games with two players, lack of information on one side and state independent signalling.
- (3) 3-player repeated games with lack of information on one side. International Journal of Game Theory, 2001, vol.30, pp. 221-246. On the existence of equilibria in repeated games with three players and lack of information on one side.
- (4) Learning sets in state dependent signalling game forms: a characterization. Mathematics of Operations Research, November 2001, volume 26, number 4, pp. 832-851.
- (5) Learning the state of nature in repeated games with incomplete information and signals (with T. Tomala). Games and Economic Behavior, April 2004, volume 47, pp. 124-156. Characterization of the information which may be perfectly transmitted in a way that is non manipulable by a single player.
- (6) Ramsey-type results on singletons, co-singletons and monotone sequences in large collections of sets (with S. Gravier, F.Maffray et N. Trotignon, laboratoire Leibnitz, INPG, Grenoble). European Journal of Combinatorics, July 2004, volume 25, pp.719-734. Extremal set theory: existence,

inside a given family of sets, of certain particular sub-families (such as locally monotonic, singletons or co-singletons sub-families).

- (7) Communication equilibria in repeated games with imperfect monitoring (with T. Tomala). *Games and Economic Behavior*, 2004, volume 49, pp. 313-344. Characterization of communication equilibrium payoffs in *any* repeated game with complete information and signals.
- (8) View-obstruction: A shorter proof for 6 lonely runners. *Discrete Mathematics*, 2004, volume 287, pp. 93-101. Proof of the “lonely runner conjecture” in the case of six runners.
- (9) A folk theorem for minority games (with S. Scarlatti, Pescara, and M. Scarsini, Turin). *Games and Economic Behavior*, 2005, vol.53, 208-230. Characterization of equilibrium payoffs in a particular repeated game with public signals.
- (10) “Théorie des jeux: le prix Nobel pour les travaux de R.J. Aumann”, with F. Forges, S. Sorin et N. Vieille. *Matapli*, bulletin of the French applied maths society, 79, January 2006, 47-70.
- (11) Collective book: “Théorie des Jeux, Introduction à la théorie des jeux répétés” with R. Laraki et T. Tomala. Introduction to repeated games. Editions de l’Ecole Polytechnique, journées X-UPS 2006, 152 pages, *ISBN : 978-2-7302-1366-0*.
- (12) The value of Markov chain games with lack of information on one side. *Mathematics of Operations Research*, August 2006, volume 31, pp. 490-512. Proof of the existence of the value in repeated games with lack of information on one side where the state process follows a finite Markov chain.
- (13) A minority game with bounded recall: with M. Scarsini et T. Tomala. *Mathematics of Operations Research*, November 2007, volume 32, No 4, pp. 873–889. Equilibrium payoffs for repeated minority games played with pure strategies having bounded recall.
- (14) Probabilistic reliability and privacy of communication using multicast in general neighbor networks: with T. Tomala. Characterization of (robust, robust and private) information transmission in networks with potential unknown hackers. *Journal of Cryptology*, volume 21, No 2, pp. 250-279, April 2008.
- (15) Discounted and Finitely Repeated Minority Games with Public Signals: with M. Scarsini and S. Scarlatti. Folk theorems (discounted and finitely repeated) for minority games with public signals. *Mathematical Social Sciences*, vol.56, issue 1, pp.44–74, July 2008.
- (16) Playing off-line games with bounded rationality: with M. Scarsini et T. Tomala. Repeated games with trivial observation played by automatons or strategies with bounded memory. *Mathematical Social Sciences*, vol.56, issue 2, pp.207–223, September 2008.
- (17) “Repeated games with incomplete information”, chapter of the *Encyclopedia of Complexity & System Science*, Springer 2009. <http://sites.google.com/site/jrenaultsite/publications>. Editor-in-chief: Meyers, Robert A. ISBN: 978-0-387-75888-6.

- (18) Uniform value in Dynamic Programming. arXiv : 0803.2758, on the existence of the uniform value in dynamic programming and Markov decision processes. *Journal of the European Mathematical Society*, vol. 13, pp.309–330, January 2011.
- (19) General Properties of Long-Run Supergames, with T. Tomala. *Dynamic Games and Applications: Volume 1, Issue 2* (2011), pp. 319-350
- (20) On the existence of a limit value in some non expansive optimal control problems, with M. Quincampoix (U. Brest). *SIAM Journal on Control and Optimization* 2011, vol. 49, pp. 2118-2132.
- (21) The value of repeated games with an informed controller. *Mathematics of Operations Research*, february 2012 37: 154–179.
- (22) Dynamic Sender-Receiver Games, with E. Solan (U. Tel-Aviv) and N. Vieille (HEC). *Journal of Economic Theory*, vol. 148, p.502-534, 2013.
- (23) Bases mathématiques de la théorie des jeux, with S. Sorin et R. Laraki. Textbook with exercises, 186 pages. Editions de l'Ecole Polytechnique 2013. ISBN : 978-2-7302-1611-1.
- (24) Secure message transmission on directed networks, with L. Renou (University of Leicester) and T. Tomala (HEC). *Games and Economic Behavior*, vol. 85, p.1-18, 2014.
- (25) General limit value in Dynamic Programming. *Journal of Dynamics and Games*, Vol. 1, Number 3, p. 471-484, July 2014.
- (26) The value of Markov chain games with lack of information on both sides. with F. Gensbittel, *Mathematics of Operations Research* 40(4), pp. 820-841, November 2015.
- (27) On Representation Formulas for Long Run Averaging Optimal Control Problem, with R Buckdahn and M. Quincampoix. *Journal of Differential Equations* 259, 5554-5581, 2015.
- (28) On values of repeated games with signals with H. Gimbert , S. Sorin, X. Venel and W. Zielonka, U. Paris 7. *Annals of Applied Probability*, February 2016, Vol 26, No 1, 402-424.
- (29) Limit Value for Optimal Control with general means, with X. Li and M. Quincampoix. *Discrete and Continuous Dynamical System - A*, vol 36 number 4, pp.2113-2132, April 2016.
- (30) The repairman problem revisited, with C. Crampes. *Annals of Economics and Statistics* 121-122, June 2016, pp. 7-24.
- (31) Uniform Folk Theorems in Repeated Anonymous Random Matching Games, with Joyee Deb, NYU and Julio Gonzalez-Diaz, U. Santiago de Compostela. *Games and Economic Behavior*, vol. 100, 1–23, 2016.
- (32) A distance for probability spaces, and long-term values in Markov Decision Processes and Repeated Games. With X. Venel (U. Paris 1), *Mathematics of Operations Research* 42 (2), 349–376, 2017.

- (33) Optimal Dynamic Information Provision, with E. Solan and N. Vieille. *Games and Economic Behavior*, vol.104, July 2017, 329-349.
- (34) Zero-sum revision games, avec F. Gensbittel, S. Lovo et T. Tomala. *Games and Economic Behavior*, Volume 108 Special Issue in Honor of Lloyd Shapley, 504-522, March 2018.
- (35) Repeated Games with Incomplete Information. In: Meyers R. (eds) *Encyclopedia of Complexity and Systems Science*. Springer, Berlin, Heidelberg, 2018. (augmented version of (17)).
- (36) How many markets for wholesale electricity when supply is partially flexible ? with C. Crampes. *Energy Economics*, vol 81, June 2019, p 465-478.
- (37) *Mathematical Foundations of Game Theory*, with R. Laraki and S. Sorin. Universitext book series, 229 p., Springer 2019. To be translated in Polish, 2022.
- (38) Limit Equilibrium Payoffs in Stochastic Games, with B. Ziliotto. *Mathematics of Operations Research* 45(3), August 2020, p. 889-895.
- (39) Representation formulas for limit values of long run stochastic optimal controls, with R. Buckdahn, J.Li et M. Quincampoix. *SIAM journal of Control and Optimization* 58 (4), p.1846-1873, 2020.
- (40) Acyclic gambling games, avec R. Laraki. *Mathematics of Operations Research* 45(4), November 2020, p.1237-1257.
- (41) Hidden Stochastic Games and Limit Equilibrium Payoffs, avec B. Ziliotto. *Games and Economic Behavior*, (124), p.122-139, November 2020.
- (42) Strategic information transmission with sender's approval, with F. Forges. *International journal of Game Theory*, 50, 475-502, 2021.

Proceedings:

- (43) Strategic Transmission of Information: a characterization. *Proceedings of the : 8ème International symposium on dynamic games and applications*, p.513-522, 1998.
- (44) Transmission stratégique de l'information: une caractérisation (in French). "Actes des sixièmes journées du groupe MODE", p.204-208, L.3.M.A., Université de Poitiers, Atlantique 1999. ISBN 2-911320-10-7.
- (45) Value of repeated Markov chain games with lack of information on one side. *Proceedings Volume of Game Theory and Applications (conference satellite ICM 2002)*, ISBN 7-5436-1301-8, p.653-658.

Prepublications:

- (46) The large space of information structures, with F. Gensbittel and M. Peski, 2019. To appear in *Theoretical Economics*.

- (47) Long information design, with F. Koessler, M. Laclau and T. Tomala. To appear in *Theoretical Economics*, 2021
- (48) Splitting Games over finite sets, with F. Koessler, M. Laclau and T. Tomala. Revision at *Mathematical Programming*, 2021
- (49) Imperfect competition in electricity markets with partially flexible technologies, with C. Crampes, 2021. Submitted to *International Journal of Industrial Organization*
- (50) On a competitive selection problem, with F. Gensbittel and D. Pizarro 2021.

In progress:

- Strategic Experimentation with privately observed payoffs, with E. Solan and N. Vieille.
- Multi-Servers and Congestion Games, with G. Fournier, M. Scarsini and B. Ziliotto.
- A Folk Theorem for Finitely Repeated Games with Public Monitoring, with J. Horner, Yale.

Miscellaneous:

- Co-editor, with D. Ramsey, of the *Annals of the International Society of Dynamic Games Vol 17: Games of Conflict, Evolutionary Games, Economic Games, and Games Involving Common Interest*, November 2020 Birkhauser. ISBN 978-3-030-56533-6. 346 pages.
- Co-editor and preface: Special Issue in Honor of the 60th birthday of Sylvain Sorin. With J. Hofbauer and R. Laraki, *Journal of Dynamics and Games*, Vol. 1, Number 3, p. i-iv, July 2014.
- On the works of Lloyd Shapley (Sur les travaux de Lloyd Shapley), *TSE Students Magazine*, spring 2013.
- Habilitation for research direction: “Autour des jeux répétés” (optimisation et contrôle de processus dans les interactions dynamiques, et quelques problèmes combinatoires). Université Paris-Dauphine, November 2007, 108 pages. See <http://sites.google.com/site/jrenaultsite/publications>
- Research documents: Repeated Games with Public Signal and Bounded Recall: with M. Scarsini et T. Tomala. Ceremade DP 2006-8.
- Redaction of 3 unpublished chapters for the collective project *Oiko Nomia: Zero-sum games* (12 pages), *Refinements of Nash Equilibria for Strategic Games* (12 pages), *Games in extensive form (the finite case)* (25 pages). see <http://www.ceremade.dauphine.fr/renault/publij.html>

2 Animation of research

Toulouse School of Economics: member of the MADS (Decision Mathematics and Statistics) group. Member of TSE recruiting committee since 2012.

Associate editor for the journals “Mathematics of Operations Research” (since 2013) and “Journal of Dynamics and Games” (American Institute of Mathematical Sciences, since 2012).

2019-2023: Chair Holder within the new Toulouse Institute ANITI. Leader of the chair “Game Theory and Artificial Intelligence”, with associate researchers Fabien Gensbittel (TSE) and Sébastien Gerchinovitz (UT3-IRT), 2 PhD students (from France and Italy) and 2 post-docs (from Argentina and Italy).

2019-2023: Member of the ANR MaSDOL (Mathematics of Stochastic and Deterministic Optimization for Deep Learning, leader S. Gadat TSE).

2017-2021: Member of the COST action (European Cooperation in Science and Technology) : GAMENET, European Network for Game Theory, 18 countries. <https://gametheorynetwork.com>

Since 2014: Member of the scientific council of the School for advanced studies of Luchon: <http://www.quantware.ups-tlse.fr/ecoledeluchon/conditions.html>

Creation and direction of the new TSE group “Decision mathematics”, and member of TSE department committee (CODEP) of TSE (2010-2012).

2012-2015. Director of the GDR 2932 of CNRS: JEMMA “Théorie des Jeux: Modélisation Mathématique et Applications”. Co-responsibles of the GDR: P. Cardaliaguet (Paris-Dauphine) and N. Vieille(HEC). This GDR mainly depends on INSMI (Institut National des Sciences Mathématiques et de leurs Interactions), it is composed of 28 teams from different departments in all over France and has more than one hundred researchers in maths, economics, computer science and biology.

2015: Member of the CNRS PEPS project: Mathematical Models and Social Interactions, with F. Gensbittel (TSE), S. Lovo and T. Tomala (HEC) about Hybrid Dynamic Games (Playing at discrete times in a continuous time environment)

2011-2015: Member of the ANR project: “Jeudy” (Long time behavior for dynamic games in continuous and discrete time), coordinated by Marc Quincampoix with researchers from Brest, HEC Paris, Polytechnique and University Toulouse 1 Capitole.

2013-2014: Member of the ARP consortium: “Mathematics and the complexity of the System Earth” (ARP MathsInTerre), by the French ANR : <http://mathsinterre.fr/index.php>

2014- GREMAQ correspondent for the GdT Jeux of the GDR IM Informatique-Mathématiques.

2011-2012: Member of the PEPS Interactions INS2I (computer science) project from CNRS “Properties of zero-sum *parity* stochastic games with imperfect observation” (Stochastic games and verification). Head of the project Hugo Gimbert, CNRS INS2I, Labri Bordeaux.

Member of the GDR (Research groups of CNRS) MOA (Mathematics of Optimization and Application) since 2009, and JEMMA since 2008.

Associate editor of “Dynamic Games and Applications” (Springer Birkhauser, 2011-2020).

Referee for international journals: Mathematics of Operations Research (MOR), SIAM Journal

on Control and Optimization (SICON), Mathematical Programming, Econometrica (ECTA), American Economic Review (AER), Theoretical Economics, Journal of Economic Theory (JET), Journal of Mathematical Economics (JME), Games and Economic Behaviour (GEB), Bulletin of the Brazilian Mathematical Society, Journal of Mathematical Analysis and Applications (JMAA), Bulletin of the London Mathematical Society, IEEE Transactions on Automatic Control (IEEE-TAC), Journal of Computational and Applied Mathematics (JCAM), International Journal of Game Theory (IJGT), Mathematical Social Sciences, Journal of Applied Probability, RAIRO - Operations Research, The Review of Economic Studies (RESTUD), Information Processing Letters, Journal of Systems and Software (JSS), Acta et Commentationes, Comptes Rendus de l'Académie des Sciences, Technique et Science Informatiques, Dynamic Games and Applications. Also Reviewer for Zentralblatt Math from 2004 to 2010. Referee for the conference “The Economics of Energy and Climate Change”, TSE 2015.

Member of the board of the MODE (Mathematics of Optimization and Decision) group of the french SMAI (Society for Applied and Industrial Mathematics), 2008-2013.

Member of the ANR ATLAS (from Applications to Theory in Learning and Adaptive Statistics, 2007-2010), coordinated by Patricia Reynaud-Bouret (CR, DMA ENS). Member of the ANR Croyances (“Beliefs”) linked to the Groupama chair: “Les particuliers face aux risques”, coordinated by Elyes Jouini (Ceremade and Institut de Finance, Paris Dauphine), 2007-2010. Participant in the project Picasso “Communication stratégique et réseaux”, (Strategic communication and networks) between Ceremade and the economic analysis department of the University of Alicante (direction: Françoise Forges et Penelope Hernandez, 2006-2009). Participant in the French-Israeli network (“Research Networks Program in Mathematics”): Strategic Use of Information in Dynamic Games, with N. Vieille, D. Rosenberg, A. Marino, E. Lehrer, E. Solan (2005-). Expert for the “projet blanc” ANR in 2009, for the WWTF (Wiener Wissenschafts, Forschungs und Technologiefonds, Austria) in 2009, for the Israel Science Foundation in 2011, 2015, 2018, for HEC in 2012, for the Chilean National Science and Technology Commission 2018. Candidate evaluation Hebrew University of Jerusalem and Tel-Aviv University 2019, ERC 2019.

PhD supervision

1. Advisor of the PhD thesis of Xavier Venel, applied maths at TSE: “Existence de la valeur uniforme dans les jeux répétés”, defended July 12, 2012. Obtained the Dodu prize at the SMAI MODE 2012 Congress. X. Venel is now assistant professor at LUISS, Roma, on leave from Maitre de Conférences at University Paris 1.
2. Advisor of the PhD thesis of Bruno Ziliotto, applied maths at TSE: Long-term strategies and payoffs in 2-player repeated games, defended on September 18, 2015. For the thesis B. Ziliotto has been awarded the PGMO Prize 2016, the Ozenne Prize 2016 of the Toulouse Academy, and the Lloyd Shapley Lecture at the Fifth World Congress of the Game Theory Society, Maastricht 2016: “The Lloyd Shapley Lecture is given at each World Congress of the Game Theory Society by a distinguished game theorist aged 40 or under at the time of the Lecture.” B. Ziliotto is now a CNRS researcher at Paris-Dauphine University,

3. Co-advisor of the PhD thesis of Sylvain Gibaud : “Evolution Markovienne de systèmes multi-joueurs accumulant leurs gains”. (Markovian evolution of mutli-agent systems) Interacting particle systems, games and applied probability, Institut de Mathématiques de Toulouse, Université Paul Sabatier. Co-advisor with Laurent Miclo (initially with Xavier Bressaud, on leave at the French embassy in Beijing). Started september 2014 and defended on November 29, 2017 . Jury members: R. Marchand (referee), M. Scarsini (referee), R. Laraki (président), X. Bressaud, F. Silva, L. Miclo et J. Renault. S.Gibaud is now “professeur agrégé in high school.
4. Advisor of the PhD thesis of Tristan Garrec : Existence et caractérisation de solutions robustes en jeux répétés, TSE Recherche, Université Toulouse 1 Capitole. Defended July 11, 2019. PGMO Prize 2020. Now post-doc at ENS Paris-Saclay & EDF
5. Co-advisor, with F. Gensbittel of the PhD of Maurizio d’Andrea at TSE, start 2020 (ANITI): Game Theory and Artificial Intelligence, in particular hybrid games where some players are using known AI algorithms.
6. Co-advisor, with S. Gerchinovitz of the PhD of Etienne de Montbrun at UT1, start 2020 (ANITI-IRT): Neural networks, sequential learning and GANs (Generative Adversarial Networks).
 - + Member of the PhD Thesis Committee of Paul Jourdan, INRA (2020-23)
 - + Temporary supervisor of the PhD of Alexander Sandukovskiy (2011, Economics, TSE).

Post-doc supervision

1. Zibo Xu (PhD LSE), HEC and TSE, March-June 2014. Now assistant professor, SUTD, Singapore.
2. Tommaso Cesari (PhD Milan), ANITI Chair with S. Gerchinovitz, 2019-2021: Bandits, Games and Deep Learning.
3. Dana Pizarro (PhD Chile), TSE and ANITI chair with F. Gensbittel, 2020-2022: Posted-price mechanisms, dynamic pricing and multi-players prophet inequalities.

Jury member of PhD thesis or HDR (habilitation as research director)

19. Member of the PhD Thesis Committee of Paul Jourdan, INRA Toulouse (2020-23).
18. Member of the Assessment committee of the PhD of Aditya Aradhya, Maastricht University 2020.
17. Referee and jury member of the HDR of Miquel Oliu-Barton (2020 June 4, maths Univ. Paris Dauphine): A journey to the land of stochastic games.
16. Jury member for the HDR of Panayotis Mertikopoulos (2019 December 20, Computer Science, LIG Grenoble): Online optimization and learning in games: theory and applications.

15. Jury member for the HDR of Thang Kim Nguyen (June 7, 2019, Computer Science, Sorbonne Université): Primal-Dual Approaches in Online Algorithms, Algorithmic Game Theory and Online Learning.
14. Jury member for the HDR of Guillaume Vigerat (December 12, 2017, Université Paris-Dauphine): “Problèmes asymptotiques pour les jeux répétés à somme nulle ; structure des ensembles d’équilibres de Nash de jeux finis” (Asymptotic problems in zero-sum repeated games ; structure of the set of Nash equilibria in finite games). Mathematics, coordinator P. Cardaliaguet.
13. Jury president for the PhD of Andrés Salamanca (November 24, 2017, Université Toulouse 1 Capitole): Incentives in Cooperation and Communication. Economics, advisors F. Forges and T. Mariotti.
12. Referee for the PhD thesis of Antoine Hochart (CMAP Ecole Polytechnique, applied maths, advisor S. Gaubert), defended November 14, 2016.
11. Jury member for the PhD of Xiaoxi Li, September 22, 2015 at U. Paris 6: “Contributions à l’étude des propriétés asymptotiques en contrôle optimal et en jeux répétés”. Maths, advisor S. Sorin.
10. Jury member for the PhD of Miquel Oliu-Barton, October 25, 2013 at U. Paris 6: Jeux dynamiques à information incomplète en temps discret et continu. Maths, advisor S. Sorin.
9. Jury member for the PhD of Mario Bravo, October 1, 2012 at U. Paris 6: Dynamiques d’apprentissage et d’évolution en théorie des jeux. Maths, advisor S. Sorin.
8. Jury member for the PhD of Cheng Wan, September 26, 2012 at U. Paris 6: “Contributions to Congestion Game Theory and Evolutionary Game Theory”. Maths, advisor S. Sorin.
7. Referee for the PhD thesis of Nicolas Wagner (January 24, 2012): “Equilibre dynamique sur un réseau de transport: propriétés mathématiques et applications économiques” speciality: Transport at the “Ecole Nationale des Ponts et Chaussées”. Doctoral school “Ville, Transports et Territoires”, University Paris-Est, supervisor F. Leurent.
6. Jury president for the PhD of Vassili Vergopoulos : Essays on non-consequentialist dynamic choice under ambiguity, december 8, 2010 at TSE: Economics, supervisor C. Gollier.
5. Jury member for the PhD of Vianney Perchet: “Approchabilité, calibration et regret dans les jeux à observations partielles”. June 25, 2010 University Paris 6: Maths, supervisor S. Sorin.
4. Jury member for the PhD of Aimé Lachapelle: “Modélisation mathématique de la congestion” (math modelling of congestion). Advisor G. Carlier, University Paris-Dauphine, June 3, 2010.
3. Jury member for the PhD of Guillaume Vigerat: “Propriétés asymptotiques des jeux répétés à somme nulle” (asymptotic properties of zero-sum repeated games). Advisor S. Sorin, University Paris 6, November 19, 2009.

2. Jury member for the PhD of Nguyen Kim Thang: “Pure Equilibria: Existence and Inefficiency & Online Auction”. Advisor Christoph Durr at LIX (Computer Science at Ecole Polytechnique), June 2009.
1. Referee for the PhD thesis of G. Ashkenazi: “Topics in Repeated Discounted Games with Imperfect Monitoring”, advisor Ehud Lehrer, School of mathematical Sciences, Université de Tel-Aviv, april 2008.

Conference and seminar organizations

Co-chair (with David Ramsey, U. Limerick) of the scientific committee of the 18th symposium of the International Society of Dynamic Games, Grenoble July 9-12, 2018.

Chairman of a session at the “8ème journe Franco-Chiliennes d’Optimisation”, IMT Toulouse July 5-7, 2017.

Organization, with M. Scarsini and R. Smorodinsky, of the 6th Workshop on Stochastic Methods in Game Theory. Erice (Sicily), May 5-13, 2017. 52 speakers <https://sites.google.com/site/ericegametheory2017/>

Organization, with P. Hernández, of the Game Theory international conference, Stony Brook, July 2016, ~ 200 participants.

Main organizer of the international conference on game theory “Games Toulouse 2011”, september 12-16, 2011 Toulouse. 50 invited speakers, around 130 participants. Other organizers: R. Laraki (X), M. Quincampoix (Brest), S. Sorin (Paris 6), T. Tomala (HEC) and X. Venel (PhD, Toulouse 1). See the website <http://sites.google.com/site/gametoulouse2011/>

Co-organizer (with O. Gossner, M. Laclau, V. Perchet, T. Tomala, W. Zielonka) of the “French Symposium on Game Theory”, 26-30 mai 2015 at Université Paris VII.

Member of the organizing committee for the applied maths SMAI-MODE 2016 in Toulouse, March 23-25.

Corresponding member (UT1-TSE) of the organization committee for the 20th World Congress of the International Federation of Automatic Control, taking place in Toulouse, IFAC 2017.

Co-organizer of the international conference in Game Theory “MAGTA 2014”, June 30, July 4 2014 in Roscoff. See the website <http://magta2014.sciencesconf.org/>

Membre du Program Committee du 16e International Symposium on Dynamic Games and Applications. Dynamic Games Society, Amsterdam July 9-12, 2014. Organisateur de la session: Continuous Time Games (speakers: J. Steg, Z. Xu et C. Bobtcheff).

Co-organizer of the conference “Games and Strategy in Paris” (June 11-13, 2012, Sylvain Sorin 60’s birthday).

Cofounder of the Optimization seminar SPOT “Séminaire Pluridisciplinaire d’Optimisation de Toulouse”, 2012, UT1-TSE- CERFACS- ENSEEIHT-LAAS-CNRS-ISAE-IRIT-ENSEEIHT-ENAC-INSA-IMT.

Member of the scientific committee for the applied maths SMAI-MODE 2014 Congress in Rennes, 26-28 mars 2014. Organizer of 2 sessions “Games and Economics”.

Member of the scientific committee for the applied maths SMAI-MODE 2012 congress in Dijon (28-30 mars 2012). <http://math.u-bourgogne.fr/mode2012/>

Member of the organizing committee of the 15th French-German optimization conference (with invited country Austria): Autriche), Toulouse September 19-23, 2011. 155 participants, Head of the organization Pierre Maréchal (University Toulouse 3).

Member of the International Program Committee of the international conference “Applications of Game Theory, Policies and Decisions”, Hyderabad/Jaipur (Inde), 12-14 december 2011.
<http://www.econ.ucdavis.edu/faculty/bonanno/Hyderabad.pdf>

Main organizer of the Workshop “Advances in Game Theory”, Ecole Polytechnique, 21-22 september 2009, with R. Laraki and T. Tomala. Invited speakers: J. Flesch (Maastricht Univ.), J. Duparc (U. Lausanne), M. Babaioff (Microsoft Research), A. Neyman (Hebrew U. Jerusalem).

Organizer, with Adrien Blanchet, of the MAD seminar “Mathématiques de la décision” (Decision mathematics) at TSE (January 2010-June 2011).

Organizer of 2 Game Theory sessions in the 2010 conference of the French Operations Research society, ROADEF. February 2010, Manufacture des Tabacs, UT1 Capitole.

Organizer of the mini-symposium “Jeux Dynamiques” (Dynamic Games) at the SMAI congress on 2009, may 25, with invited speakers P. Cardaliaguet (Brest), B. de Meyer (Paris 1) et G. Vigerl (Paris 6).

Organizer of the 2008-2009 working group/seminar “Advances in Game Theory” at Ecole Polytechnique every friday morning: <http://sites.google.com/site/jrenaultsite/advances-in-game-theory>. 29 Fridays, 32 speakers with 2 hours seminars:

Co-organizer (2000-2003, together with O. Gossner, Paris X, N. Vieille, Hec and X, and D. Rosenberg, Paris XIII then R. Laraki, X-CNRS) of the Game Theory seminar “Théorie des Jeux et Applications” (now “séminaire Parisien de théorie des jeux”) of the Institute Henri Poincaré.

3 Conferences - Seminars - Visits

Invited talks abroad are in italic.

2021-22:

Workshop “Dynamic Games” in Quimper, October 19-22, 2021. In person.

MADS seminar, TSE, September 16, 2021.

2020-21:

Paris Game Theory Seminar, June 14, 2021. Online

Relax workshop on Games, Chennai, February 1-4, 2021. Online

University Paris 1 Theory seminar, October 19, 2020. In person.

2019-2020:

(Visit to Wuhan University, March 18-31, 2020, invited by Xiaoxi Li. cancelled due to Covid-19)

(Relax workshop on Games, Chennai March 16-19, 2020. cancelled due to Covid-19)

Visit to Roma Tor Vergata University, to teach a class “Games and Information”, February 2-8, 2020, invited by Andrea Attar.

Workshop “Dynamics and Information”, Tel-Aviv, January 29-30, 2020.

Workshop “Dynamic games, discrete time, continuous time”, Fréjus, October 8-10, 2019.

2018-2019:

Workshop “Information Design and Splitting Games”, invited speaker, Paris 1 June 17-19, 2019.

Summer School PANORISK, Nantes, June 13-14, 2019.

Micro-Theory seminar, Glasgow University, February 5, 2019.

2017-2018:

Co-chair ISDG Symposium, Grenoble July 9-12, 2018.

Paris Symposium on Game Theory, invited speaker, June 11-15 2018. <http://www.paris-symposium-on-games.org>

Workshop Games, Dynamics and Optimization 2018, Vienna March 13-15, 2018. <http://gdo2018.org>

Economic Theory seminar, TSE march 2018.

Workshop “Jeux Dynamiques”, Fréjus October 17-19, 2017.

Workshop “Stochastic control, BSDEs and new developments”, Roscoff 1 September 11-15, 2017.

2016-2017:

Plenary speaker, 28th Stony Brook International Conference on Game Theory, in honor of Pradeep Dubey and Yair Tauman, 17-21 Juillet 2017.

Plenary speaker, 11th Workshop of the International Society of Dynamic Games, Banach Center, Varsovie 13-15 Juillet 2017.

Organizer, with M. Scarsini (Luiss-Roma) and R. Smorodinsky (Technion- Hafa), of the 6th Workshop on Stochastic Methods in Game Theory, Erice (Sicily) May 5-13, 2017.

Seminar, Quantitative Economics Department, Maastricht University, 16-03-2017.

Paris Game Theory seminar, November 28, 2016.

Roy seminar, Paris School of Economics, October 17, 2016.

2015-2016:

Organization, with P. Hernández, of the 27th Stony Brook International Conference, July 17-21, 2016.

Workshop “Competition and Incentives”, Humboldt University, Berlin, June 9-10, 2016.

Victor Domansky Memorial conference, St Petersburg, May 23-24, 2016.

Workshop KMT (Kolmogorov meets Turing), 18 mai 2016, LUISS Rome.

Visit at LUISS, Roma. Invited Professor, May 9 - June 3 2016.

Workshop Collective behaviour in the big data area= can we enhance collective intelligence in human groups ?, IAST-TSE April 14,15, 2016.

Seminar at London School of Economics, March 17 2016.

Seminar LAMPS (Laboratoire de Mathématiques et de Physique), Université de Perpignan, 4 Février 2016.

Workshop Geometry, Evolution and Learning in Games, Luchon January 4-8, 2016.

Workshop and Tutorial on Stochastic Games, NUS and Institute for Mathematical Sciences, Singapore. November 30-December 4, 2015.

Workshop on “Incomplete Information : Repeated Games and Cheap-Talk”, Paris School of Economics, November 5-6, 2015.

Workshop ”Networks, Network Games, Game Theory”, Univ. Valencia, November 2-3, 2015.

2014-2015:

Conference in Honor of Abraham Neyman, The Hebrew University of Jerusalem, June 16-19, 2015.

Seminar at LUISS, Roma: Department of Economics and Finance. April 29, 2015

The Second Singapore Joint Economic Theory Workshop, National University of Singapore and SUTD, April 14, 2015.

Seminar at SUTD, Singapore University of Technology and Design, department Engineering Systems and Design: April 13, 2015

Workshop “Strategic Aspect of Information in Games and Financial Markets”. 6 Février 2015, Université Paris-Dauphine.

Paris Game Theory Seminar, November 17, 2014.

Workshop “Optimisation et processus dynamiques en apprentissage dans les problèmes inverses”, Sestri Levante (Italie), September 8-12 2014.

2013-2014:

Avignon-Montpellier seminar in Optimisation, Contrôle et Dynamique (SAMOCOD): June 3, 2014, Montpellier.

Game Theory seminar of l’Institut de Recherche en Informatique de Toulouse (IRIT), March 17, 2014.

Third International Conference on Dynamics, Games and Science. University of Porto, February 17-21, 2014.

Workshop “Mathematical Modelling in Economics”: Game Theory and Economics: an introduction. Toulouse School of Economics, December 18, 2013.

Workshop “Jeux répétés, temps discret, temps continu”, Roscoff October 21-23 2013.

Plenary speaker of the 16th French German Polish Optimization Congress. September 23-27, 2013, Krakow. <http://www.fgp13.agh.edu.pl/>

4th Workshop on Stochastic methods in Game Theory, International School of Mathematics G. Stampacchia, Erice Italie 6-15 septembre 2013.

2012-2013:

Workshop Stochastic Dynamic Games with Applications in Economics and Finance, Hausdorff Research Institute for Mathematics, Bonn 17-20 Juin 2013.

Seminars at the Center for Rationality, Jerusalem June 2 2013 et at the math department de Tel-Aviv University, June 4 2013.

Economic Department Seminar, Université of Caen, May 13, 2013.

Conference in the memory of Jean-François Mertens, IHP Paris January 7, 2013.

Summer school and workshop on Dynamic Games and Applications, December 19-21 2012, Valparaiso, Center for Mathematical Modeling, Chile.

Economic Department Seminar, Leicester University, November 28, 2012.

Workshop “Jeux répétés, jeux différentiels”, Foljuif October 10-12, 2013.

2011-2012:

Invited speaker (plenary speaker) at the 23rd International Conference of Game Theory at Stony Brook, USA, July 15-19 July 2012.

Invited in the session Dynamics and Games of the 9th AIMS conference on Dynamical Systems, Differential Equations and Applications, Orlando. July 1-5, 2012.

Invited talk, Quantitative Economics seminar, Maastricht University, 21-06-2012.

Invited talk, colloquium of the IMT, Maths Institute of Toulouse, 15-06-2012.

Participant in the annual meeting of the research group GDR MOA (Maths of Optimization and Applications), June 4-7 2012, Guadeloupe.

Invited talk, seminar of the MIP team (Maths for Physics and Industry) of IMT, University Toulouse 3, 22-05-2012.

Invited talk, Institute of Mathematical Economics seminar, Bielefeld Germany 07-02-2012.

Invited speaker at the international conference “Optimization, Games, and Dynamics”, IHP Paris, 28-29 November 2011. <http://www.ann.jussieu.fr/plc/ihp2011.html>
2010-2011:

Invited speaker, Tel-Aviv international Workshop on Game Theory, June 20-23 2011 (organizers: E. Solan and E. Lehrer)

Invited talk, theory seminar, Paris School of Economics - University Paris I, March 18, 2011.

Seminar at LPT (Theoretical Physics Laboratory), University Toulouse 3, June 7 2011.

Invited seminar, Bocconi University, Milan May 10 2011.

Invited speaker at the Workshop “Stochastic methods in Game Theory”, Erice (Sicile), September 6-8 2010.

2009/2010: Presentation in the Stony Brook international conference, July 12-16 2010.

Speaker at the summer school ‘Transmission d’information, jeux répétés, apprentissage’ (Information transmission, repeated games and learning) of the GDR 2932 “Théorie des Jeux: Modélisation mathématique et applications”, Aussois, 31 mai-4 juin 2010.

Speaker at the probability seminar, IMT Toulouse Maths Institute, April 6, 2010.

Invited speaker (plenary session) in the 2010 conference of the MODE group (mathematics of optimization and decision) of SMAI, Limoges, March 24-26 2010.

Participation as invited speaker in the workshops:

- “*Structural aspects of rationality*”, December 13-14 2009, theoretical computer science, Kanpur (Inde).

- “Mechanism Design, Game Theory and Political Economy: In Honor of Roger Myerson”, December 7-8, 2009, Toulouse School of Economics.

3 introductory seminars on Game Theory at TSE: November 5, 12 and 26, 2009.

Visit at LABRI, Laboratoire Bordelais de Recherche en Informatique, may 10-11 2010: collaborations with Hugo Gimbert, Sylvain Sorin, Wieslaw Zielonka, Xavier Vienel, Youssouf Oualhadj. Occasional guest in the team Combinatoire et Optimisation, Université Paris 6, Spring 2010, collaborations with Rida Laraki et Sylvain Sorin.

2008/2009: Participation in the conference of the GDR “Théorie des Jeux: modélisation mathématique et applications”, Luminy (France), May 4-8 2009. Presentation at the seminar GREMAQ-TSE in Toulouse on October 14, 2008. Participation in the Workshop Dynamic games- Differential Games in Roscoff, November 24-26 2008, in the workshop “Théorie des Jeux et Informatique” at Université Paris

6 on February 18, 2009. *Presentations at the seminar Meteorite at Maastricht University, december 4 2008*, at the CMAP seminar (applied maths at Ecole Polytechnique) on January 27, 2009, at the Analysis seminar at Caen University on March, 10, at the seminar “Theory Thursdays” at l’Ecole Polytechnique on March, 12.

2007/2008: Speaker in the 13th International Symposium on Dynamic Games and Applications, June 3 to July 3 at Wroclaw (Poland) and at the 3rd World congress in Game Theory at Northwestern University (Evanston, July 13-17). - Speaker at the conference MODE’08 (Mathematics of Optimization and Decision) of the french SMAI (Society for Applied and Industrial Mathematics) in Clermont-Ferrand, February 26-28, 2008. - *Invited speaker at the Second General Equilibrium Workshop in Rio (Brazil), January 28-30, 2008.* - *Invited speaker at the “Workshop on Strategic Communication and Networks” in Valencia (Spain), September 19-20, 2007.* - Seminars given at the “Séminaire Parisien d’Optimisation” at IHP on September 24, 2007, at the Applied Analysis seminar of Brest University on February 12, 2008. - Invited speaker at the International Workshop on Applied Probability (IWAP 2008) at the Technological University of Compiègne, France, July 7-10 2008. *Invited speaker at the “Workshop on Recent Advances in Repeated Games” at Stony Brook (USA) July 20-22.* Invited speaker at the “Games” event of LABRI (Laboratoire Bordelais de Recherche en Informatique), Bordeaux June 4-5. Visit to Tel-Aviv University, invited by Ehud Lehrer and Eilon Solan, June 22-26, within the network: Strategic Use of Information in Dynamic Games.

Invited speaker at the workshop “Dynamiques et Optimisation” (dynamics and optimization) of the ANR research group “Optimisation, jeux et dynamique de la décision avec coût au changement : modélisation et algorithmes”, June 9-11, Université Paris 6. Short presentation for the AERES visit to CEREMADE, December 21 2007.

Speaker at the CASYS team seminar at LJK, Grenoble (France) on April 1st, and at the ACSIOM seminar in Montpellier on April, 8.

2006/2007: - Speaker at the 18th Stony Brook Game Theory International Conference (USA, July 9-13 2007). - Speaker at the 4th SMAI congress (Praz sur Arly, June 4-8 2007), in a mini-symposium organized by S. Sorin. - Speaker at CODE 2007, organized by the MODE group, at IHP Paris, March 18-20 2007. - Seminars at the Probability Seminar of Paris 13 University, May 23 2007, and at the Bachelier Seminar at IHP on January 26, 2007.

2005/2006: - *invited speaker at the “Workshop on Strategic Communication and Networks” in Valencia (Spain), January 25-27, 2006* - *Invited speaker at the Workshop “Stochastic Methods in Game Theory”, in Erice (Italie), September 24-October 2, 2005.* - Conference (with F. Forges, S. Sorin, N. Vieille) on December 12, 2005, for a special session of the Game Theory seminar at IHP in honour of R.J. Aumann, Nobel prize in Economics 2005. Same on Mars 7, 2006 at Paris-Dauphine. - Seminar “entre nous” of the Ceremade, February 7, 2006: On some zero-sum repeated games.

2004/2005: - *May 2005: Visit at the University G. d’Annunzio in Pescara (Italie), invited by S. Scarlatti and M. Scarsini. Seminar at University “La Sapienza” in Rome on May 23, 2005.* -Participation in the Workshop “Jeux dynamiques, Jeux différentiels” organized by P. Cardaliaguet, M. Quincampoix and S. Sorin in Roscoff, June 1-3, 2005.

2003/2004: - *Invited speaker (plenary session) at the 15th 18th Stony Brook Game Theory International Conference (July, 12-16 2004).* - Seminar on Discrete Mathematics at Leibniz (INPG, Grenoble) on May, 27, 2004, in a special session dedicated to the “lonely runner” conjecture.

2002/2003: - *April 2003: Visit at the departement of Statistics and Applied Mathematics at Torino University, invited by M. Scarsini.* - 11th conference of the group MODE (March 27-29, 2003), at Pau University.

2001/2002: - Conference “Game Theory and Applications” (satellite ICM 2002), August 14-17 2002, Qingdao (China). - Visit from February 25 to 28 to the discrete mathematics department at Leibniz (INPG, Grenoble), invited by S. Gravier and N. Trotignon. Conference given at the Grenoble seminar “Mathématiques Discrètes et Applications” on February 28, 2002.

1999/2000: - First World Congress of the Game Theory Society (Bilbao, Spain, June 24-28 2000). - Visit to the math department at Birzeit University (Cisjordanie), from October, 29 to November, 12 1999 (teaching a game theory course) - *Seminar at the Center for Rationality and Interactive decision Theory, Hebrew University of Jerusalem, Israel, November 1999.*

1998/1999: - 10th Stony Brook Game Theory International Conference (July, 7-23, 1999). - 7th conference of the group MODE (March 18-20, 1999), at Orléans University.

1997/1998: - 8th International Symposium on Dynamic Games and Applications, Maastricht University (The Netherlands, July 6-8 1998). - 3rd Spanish meeting on Game Theory and Applications, Universitat de Barcelona (June 15-17, 1998). - 7th conference of the group MODE (March 19-21, 1998), organized at Poitiers University by L3MA (Laboratoire de Modélisation en Mécanique et Mathématiques Appliquées).

1996/1997: - 8th Stony Brook Game Theory Festival (July 1997). International Conference (July, 7-11). Workshop on complexity in repeated games (July, 13-16), organized by A. Neyman, Stony Brook and Jerusalem. “NATO advanced study institute” (July 21-31, organized by W. Thomson, Rochester, USA). Written redaction of J.F. Mertens’ conference (CORE, Louvain-la-Neuve, Belgique): “The axiomatic approach to strategic equilibrium”. - 5th conference of the group MODE (March 19-21, 1997), organized at IHP by the research center CERMSEM, Université Paris I. Poster presentation.

1995/1996: “N.N. Vorob’ev memorial conference”, international congress in Game Theory and Economics, June 27 -30, 1996, St Petersburg (Russie).

15 or so presentations at the Paris Game Theory Seminar at IHP (Institut Henri Poincaré, Paris) since 1997.

4 Teaching

2017-2020: Head of the math department of Université Toulouse 1 Capitole.

Professor at Université Toulouse 1 Capitole since October, 2009. Formerly Maître de conférences at Université Paris-Dauphine in applied mathematics since 1999. Temporary position ATER in Paris-Dauphine in 98-99. Vacations (95-96) then “moniteur” (96-98), then vacations (2002-2003 to 2005-2006) at Paris I (UFR Mathématiques et Informatique). Secondary teaching at ENSAE (1996-97 then 1999-2002), at Ecole Polytechnique (2007-2009), at Université Paris 6 (2009-2012).

Member of the development board of the Master 1 Econometrics-Statistics of TSE - UT1C, 2016-2020.

Member of the math department council of University Toulouse 1: 2011-2014. Organizer of the Pi-Day (workshop with 15mn talks), March 14, 2014.

Spring 2012: Member of the prospection committee (4 people, directed by H. Cremer) for the position of Director of the School Toulouse School of Economics, taken by J-Philippe Lesne.

November 22, 2012: Conference, with M. Lebreton and Y. He, on the 2012 Economics Nobel prizes L. Shapley et A. Roth. Toulouse School of Economics.

Teaching lecture notes: (available at <http://sites.google.com/site/jrenaultsite/enseignement>)

- Basics of Game Theory, lecture notes, M2 ETE TSE 2020, 126 pages.

- Strategic Optimization: zero-sum games, M1 Eco-Stats TSE 2020, 37 pages.

- Tutorial on Zero-Sum Stochastic Games, NUS and Institute for Mathematical Sciences, Singapore. November 30-December 4, 2015. 34 pages.

- “Bases mathématiques de la théorie des jeux” (mathematical bases of game theory), with S. Sorin and R. Laraki. Ecole Polytechnique, 2008. 134 pages, ISBN 978-2-7302-1537-4.

- Programmation Dynamique et Jeux Stochastiques (Dynamic Programming and Stochastic Games), M2 OJME Paris 6 2012, 22 pages.

- Mathématiques de la Décision (Decision Maths), L3 Eco Math Ecole d’Economie de Toulouse 2013, 48 pages.

- A mathematical introduction to game theory: slides 3h, 52 pages, November 2009 TSE. see <http://sites.google.com/site/jrenaultsite/enseignement> (in French) slides 52 pages.

- Notes de cours Algèbre 1, (lecture notes Algebra 1) L1 Eco Math at Paris Dauphine, 41 pages, 2004.

Teaching in Game Theory:

2014 Co-supervision, with X. Bressaud, of the master thesis of Sylvain Gibaud, (M2 Maths fondamentales et Appliquées, Université Toulouse 3). Sylvain Gibaud is now a Doctor.

2013 Co-supervision, with F. Gensbittel, of the memoir of Hugo Martin, L3 ENS Cachan Bretagne (now Phd candidate maths at Versailles- St Quentin)

M2 (pre-doctorate) level:

2021: Introduction to Game Theory, ISAE SUPAERO, new path Neuroergonomics and AI. 4h

2009-2021: “Game Theory” Course, M2 TSE, UT1 Capitole: around 30h, shared with Takuro Yamashita since 2020. Direction of the research projects of Xiaoxi Li (repeated games with signals, 2010 now assistant prof at Wuhan University), Nicolas Dupuis (congestion games, 2010), Stephen Wolff (modes of discounting in repeated games, 2011), Alexander Sandukovskiy (Asymmetric auctions, 2011), Thomas Rivera (Computation of Nash Equilibria, 2012, now assistant prof at McGill University), Steve Campoy (Coco-value, 2013), Zhixian Yu (2013, risk measure à la Hart-Foster), Andrés Salamanca (2014, Values for Cooperative Games with Incomplete Information, now Post-doc at PSE), Alessandro Ozanne (2020, Persuasion on Social Media).

2011-12: 6 h Game Theory course at the Franco-Vietnamese research school: Mathematical methods in economics and finance. Do Son- Hai Phong, Vietnam, october 24-november 1st 2011, organizers

Nguyen Tien Zung (U. Toulouse 3) and Nguyen Viet Dung for the french CNRS and the VAST (Vietnamese Academy of Science and Technology).

2009-2012: 18h Course “Programmation dynamique et jeux stochastiques” (Dynamic Programming and Stochastic Games), M2 “Optimisation et Théorie des Jeux. Modélisation en Economie” at Université Paris 6. Supervision of the memoir of Antonin Macé (ENS) in 2009.

2006-2007 et 2007-2008: Course “Théorie des Jeux: Coopération et Equilibres”, (Game Theory: Cooperation and Equilibria) 6*3h, M2 MASEF (Mathématiques de l’Assurance, de l’Economie et de la Finance) at Paris-Dauphine.

2006-2007 Direction of the project of P. Sudries (M2 Masef) “Croyances, apprentissage et équilibres dans les jeux répétés” (Beliefs, learning and equilibria in repeated games).

2002-2006: Course “Jeux et Contrats” (Games and contracts) in the DEA MMME (Modélisation et Méthodes Mathématiques en Economie, Paris I), with T. Tomala.

1999-2000 et 2000-2001: Course “Théorie des Jeux et Utilisation Stratégique de l’Information” (Game theory and strategic use of information) in the DEA MASE (Mathématiques Appliquées aux Sciences Economiques, Paris IX, 7*3h).

2000-2001: Direction of the project of H. Assir (DEA MASE): “Théorème d’approchabilité de Blackwell et applications” (Blackwell approachability theorem and applications).

2002-2003: Direction of the project of D. Angelaki (DEA MASE): Equilibres de jeux répétés avec différentes préférences temporelles. (Equilibria of repeated games with different time preferences).

M1 Level:

2016-2021: Strategic Optimization (formerly Decision Mathematics 1, new program), M1 Eco Stats MAD TSE . 30h

2015-2016: Decision Mathematics 2 (new program), M1 Eco Stats TSE. 18h

2012-13: Tutorials “Probability Theory”, M1 Ecole d’Economie de Toulouse, 10*1,5h.

2007-2009: Tutorials in Game Theory at Ecole Polytechnique, 9*2h, for the course by Sylvain Sorin. 3rd year student in the program “Ingénierie Mathématique de la Finance et des Systèmes Ecologiques”.

Spring 2008: Supervision of a second year project at ENPC (French Grande Ecole), on congestion games (around Braess’ s paradox).

Game Theory Course in M1 MASS (mathématiques appliquées aux sciences sociales, i.e. applied mathematics for social sciences) from 2001-2002 to 2006-2007 (Paris-Dauphine, 3*10 h then 3*13h in 2005-2006 and 2006-2007)). See above the written notes: Jeux sous forme stratégique.

Course “Game Theory and Applications to Industrial Organization”, from Octobre 29, to November 12 1999 at Birzeit Univerisity (Cisjordanie) at a level M1 MASS, part of a cooperation program between Birzeit University and the universities of Evry, Paris I, Paris VII and Paris IX. 6*3h.

Exercices in Game Theory in M1 Econométrie (Paris I, 2nd semester 95/96, 12x1h30), and at ENSAE (3rd year division SEA, 1er semester 95/96, 6x1h10).

Direction of 6 student projects in M1 MASS from 1999 to 2004.

L3 Level:

2017: Co-supervision, with F. Gensbittel, of the internship of P. Brunello, 1st year ENSAE student,

June-12, July 7 on the conjectures of the *Lonely Runner* and of the *Quitting Games*. (I already supervised an internship of P Brunello in 2013)

2012-2016: Course “Mathématiques de la décision”, (Decision mathematics, new course) L3 Eco-maths, 18*1h30, Ecole d’Economie de Toulouse, Université Toulouse 1 Capitole.

2013-2015: Tutorial “Analyse et Optimisation”, L3 Ecole d’Economie de Toulouse, 10*1,5h.

Other teaching in probability and statistics:

Exercices in discrete time stochastic processes: (M1 MASS, Paris 9, 1999-2000, 10x1h30), in Probability (L3 MASS, Paris 9, 1999-2000 and 2001-2002, 26x1h30 per year), in Inferential Statistics (L3 MASS, Paris 9, 1998-99, 1999-2000 and 2000-2001, 13x1h30 per year) and also Statistics at IUP “Génie Mathématique et Informatique” (Paris 9, 1st year, 99-2000, 2000-2001 and 2001-2002, 36h including 12h of Software SAS per year). Direction of projects in probabilities and statistics for 3rd year students MASS. Exercices in Statistics (Paris I, 1rd year MASS, 96/97, 14x1h30).

Teaching for Undergraduates:

2016-2017: Apprentissage des techniques et outils mathématiques pour l’économie (ATOME 2), L1 Eco-Maths, 18h. *Learning techniques and mathematical tools for economics*.

2009-2012: In charge of the mathematics (linear algebra) course at semester 2 for 1st year students in economics and management at Université Toulouse 1 Capitole, 656 registered students in 2010. 33h or 36h course for 150 students (and 15h tutorials in 2010 only).

2006-2007: Course “Mathématiques appliquées à l’Economie” (Applied mathematics for Economics) L3 Applied Economics, Université Paris-Dauphine. 13*3h.

2005-2006 et 2006-2007: Course/Exercices of mathematics in DUGEAD1 (Management and Applied Economics, Université Paris-Dauphine, 1rd year students): 2005/2006, 28*1h30.

Course: Algèbra 1 for 1st year MASS students (from 2000-2001 to 2004-2005, 13*1h30, around 170 students). See above for the written notes.

Exercices in Analysis and Algebra (1rd year MASS, 98-99, and 2000-01 to 2004-2005, 32*4h30, and 2nd year MASS, 99-2000, 26x1h30). Mathematical reasoning (1st year MASS, 98-99, 13x1h30), Optimization (Paris I, 2nd year MASS, 97/98, 14x1h30), Analysis (1st year MASS, 97/98, 14x2h), mathematics for students in Economics (Paris I, 95/96 and 96/97, 12x1h30 per year).

Others: Exercices in Analysis (IUP “Génie mathématique et informatique”, 2nd year, 2004-2005, 7*3h). Exercices in convex and fonctionnal analysis (ENSAE, 1st year maths 1999-2000, 2000-2001 and 2001-2002, 13x2h). Exercices in (bi)linear algebra at ENSAE. (1st year economy, 1st semester 96/97, 15x2h). Preparation in mathematics for the Economic entrance examination at ENSAE (Paris I, M1 MASS, 97/98, 28x1h30).

5 Cursus

Habilitation conferred to research direction defended on November 27, 2007 at Université Paris-Dauphine. Title: “Autour des jeux répétés (optimisation et contrôle de processus dans les interactions dynamiques, et quelques problèmes combinatoires)”, i.e. “Around repeated games (optimization and control of stochastic processes in dynamic interactions, and a few combinatorial problems)”. Jury members: professors J. Abdou (Paris I), P. Cardaliaguet (Brest), F. Forges (Paris-Dauphine), E. Jouini (Paris-Dauphine, coordinator), E. Lehrer (Tel-Aviv, referee), J.F. Mertens (Louvain-la-Neuve, referee), S. Sorin (Paris VI, referee) and N. Vieille (HEC).

PhD Thesis(1995-1998) in applied mathematics: “Transmission stratégique d’information et Equilibres de jeux répétés” (Strategic transmission of information and equilibria of repeated games). Directed at Université Paris I by J. Abdou, at the research center Cermsem (Centre de Recherches en Mathématiques, Statistiques et Economie Mathématique). Defended on October 19, 1998 (mention “très honorable”, proposed for a PhD award).

May-June 2009: Ranked 1st on the professor position PR-0311382J-9002 at University Toulouse 1 (applied maths) and on the prof. position PR-0141408E-120 at Caen University (applied and pure maths, profile: discrete optimization, applied and pure maths). Ranked 2nd on the position PR-0751722P-3541 at Université Paris 6 (applied maths, profile: Graph Theory, Discrete Optimization, Combinatorics).

May-June 1999: Ranked first on the Maître de Conférences (assistant prof) position MCF-0751717J-0395 at Paris I University (applied maths), ranked 3rd on the position MCF-0750736T-0427 at Paris-Dauphine Université (applied maths).

Statisticien-Economist diploma from ENSAE (National School for Statistics and Economic Administration), 1991-1994, SEA division, admission after preparatory classes “Mathématiques Supérieures et Spéciales M” (also admitted in 1991 at ENS Cachan).

Predoctoral DEA “Modélisation et Méthodes Mathématiques en Economie” (Models and Mathematical Methods in Economics), 1994, Université Paris I and Ecole Polytechnique (highest honours). French Agrégation in mathematics (1997), Licence (1993) and Maîtrise (1994) in mathematics at Université Paris VII.

6 Miscellaneous

- PEDR (“Prime d’Encadrement Doctoral et de Recherche”) awarded continuously since 2002 (renewed in 2006, 2010 under the name of PES, 2015, 2019).

- OVA (Outstanding Vitae Awards) from Toulouse School of Economics, 2010-

- Video presenting the MADS (Decision mathematics and statistics) group of TSE, December 12, 2016.

- Article for the general public: “La vie est un jeu, avec Jérôme Renault” (Life is a game) by the journalist V. Ravinet, for the media Exploreur of University of Toulouse, March 2021.
- Article for the general public “Jeu concurrentiel, quand tout le monde y perd”, based on the paper [13] and written by Umit Allard after an interview, for the research document “Les particuliers face aux risques : analyse et réponses des marchés” of the Dauphine-Groupama chair, January 2010.
- Conference “Découvrades”, conferences between art and science at Meteo-France. February 8, 2018: “ Existe-t-il des stratégies gagnantes ? Bluffs, menaces, intelligence ? ” <http://www.science-animation.org/fr/les-decouvrades-de-soleil>
- Talk at IRES (Research Institute for the teaching of Science): Zero-sum games. January 25, 2018.
- I obtained the DODU price (ex-aequo with Jean Maeght) for the best presentation in the conference of the MODE group 1998.
- An introduction to zero-sum games for high school students: Cercle Sofia Kovalevskaja, Université Toulouse Capitole March 28, 2015.
- Contribution to the project: “About the creation of an ENS school in Toulouse” , leader Bertrand Girard, 2010-2011. <http://www.ens-toulouse.fr/>
- Responsible for the Baccalaureat maths examination, bac STG (Sciences et Technologies de la Gestion) 2013.
- Conference “Energy Industry at a Crossroads: Preparing the low-carbon future”, TIGER Forum TSE 6 Juin 2014: Discutant (10 mn) for the paper of Y. Smeers: A Stochastic Two Settlement Equilibrium Model for Electricity Markets with Wind Generation.
- Advisor for the work experience of Pierre Brunello (Terminale), 16-18 october 2013 (discovery of research).
- Member of the National University Council (CNU, 26th section, 2005-2007). Participation in the qualification process for assistant professors, and in the promotion process for the “Hors-Classe” grade of assistant professors.
- Member of the mathematics selection committee of Paris-Dauphine, 2001-2008 (vice-president from 2004 to 2006). Also a member of the commissions of Paris I (2004-2006) and Limoges (2006-). Elected member of the council of Ceremade from 1999 to 2005. Member of the selection committee for an assistant professor position in applied maths at Paris-Dauphine in 2010, 2011 and 2012, for a professor position in applied maths (nonlinear analysis; optimization, control) in Brest in 2011, for an

assistant professor position in pure and applied maths (optimization, game theory, control, effective algebra or number theory) in 2012 at University Paris 6. Member of the selection committees for 2 professor positions (Statistics, Econometrics and Statistics), University Toulouse 1, 2014. Member of the selection committee for the Professor position “Optimization, Control, Combinatorics, Game Theory”, IMJ-PRG University Paris 6 2017. Member of the selection committee for the Maître de Conférences position “Mathematics”, GREQAM Aix-Marseille University 2017.

- Member of the SMAI (French Applied Maths Society) since 1997, former member of the Game Theory Society, from 1999 to 2002 and of the SMF (French Maths) in 2008-2009.
- In charge, together with S. Roverato, of the DEUG MASS (1st and 2nd year students in applied maths and social sciences) at Université Paris-Dauphine from 2000 to 2003.
- Participation in the seminar Oiko NOMIA- Blaise Pascal (1996-2000, ENS Ulm, organized by G. Debreu), and in the Oiko NOMIA project, devoted to the study of mathematical models of social and economic interactions (Université Paris I). Redaction of game theory chapters.
- Participation in a scientific experience during the French presidential election 2007. Testing an alternative voting system, based on the median, introduced by M. Balinski and R. Laraki.
- Teaching coordinator of the PhD students Frédéric Sur and Romain Brette (2001-2003). Coordinator of the student Nora El Qadim, who was admitted to ENS Cachan in 2002. President of a Baccalaureat Jury in 2005 (session STL, Lycée Paul Eluard de St Denis).
- Military service in 1994-1995 as a scientific (12 months). Former member of the French youth Chess team (best ranking: 2220 elo).