

Joon KWON — Curriculum Vitæ

French nationality
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RESEARCH INTERESTS

Online learning — Regret minimization — Bandit problems — Blackwell's approachability — Game theory — Games with partial monitoring — Convex analysis — Optimization — Statistical learning

DISTINCTIONS

2017 PGMO PhD Prize

2016 Postdoctoral laureate from *Fondation mathématique Jacques Hadamard*

EDUCATION & POSITIONS

2016– Postdoc under the supervision of Éric MOULINES, *Centre de mathématiques appliquées, École polytechnique*.

2012–2016 PhD student under the supervision of Sylvain SORIN & Rida LARAKI, *Université Pierre-et-Marie-Curie*. Thesis title: *Mirror descent strategies for regret minimization and approachability*, defended on October 18, 2016.

2009–2013 "Normalien" at *École normale supérieure de Lyon*.

PUBLICATIONS

- [1] A. Juditsky, J. Kwon & E. Moulines *Unifying greedy and lazy mirror descent*, in preperation.
- [2] J. Kwon, *Mirror descent strategies for approachability*, in preperation.
- [3] J. Kwon, G. Lecué, M. Lerasle & É. Moulines, *Making machine learning algorithms more robust by educated MOM-based subsampling*, in preperation.
- [4] J. Kwon, V. Perchet & C. Vernade, *Sparse stochastic bandits*, Proceedings of Machine Learning Research (COLT 2017), 65:1269–1270, 2017.
- [5] J. Kwon & V. Perchet, *Online learning and Blackwell approachability with partial monitoring: optimal convergence rates*, Proceedings of Machine Learning Research (AISTATS 2017), 54:604–613, 2017.
- [6] J. Kwon & V. Perchet, *Gains and losses are fundamentally different in regret minimization: the sparse case*, Journal of Machine Learning Research, 17(229):1–32, 2016.
- [7] J. Kwon & P. Mertikopoulos, *A continuous-time approach to online optimization*, Journal of Dynamics and Games, 4(2):125–148, 2017.
- [8] J. Kwon, *A universal bound on the variations of bounded convex functions*, Journal of Convex Analysis, 24(1):67–73, 2017.

TALKS

- December 2017 Parisian Seminar on Game Theory, Paris, *Links between regret minimization and convex optimization.*
- November 2017 Statistics Seminar, CREST, Palaiseau, *Mirror descent strategies for regret minimization and approachability.*
- November 2017 Gradient dynamics, convergence and related topics workshop, Paris, *Links between regret minimization and convex optimization.*
- November 2017 SIERRA Seminar, INRIA, Paris, *Mirror descent strategies for regret minimization and approachability.*
- November 2017 PGM Days, EDF'Lab Paris Saclay, Palaiseau, *Mirror descent strategies for regret minimization and approachability.*
- October 2017 CMAP, École polytechnique, Palaiseau, *Regret minimization: links with convex optimization and online learning.*
- September 2017 Statistics Seminar, ENSAI, Bruz, *Mirror descent strategies for regret minimization and approachability.*
- September 2017 Core Data Science Seminar, Facebook, Paris, *Online learning.*
- April 2017 Télécom ParisTech, Paris, *Mirror descent strategies for regret minimization and approachability.*
- March 2017 Statistics Café, École polytechnique, Palaiseau, *Sparse stochastic bandits.*
- February 2017 Workshop, Université Paul-Sabatier, Toulouse, France, *Mirror descent strategies for regret minimization and approachability.*
- December 2016 SequeL Seminar, Lille, France, *Mirror descent strategies for regret minimization and approachability.*
- December 2016 LAMSADE Seminar, Paris, France, *Mirror descent strategies for regret minimization and approachability.*
- March 2016 SMAI-MODE Days, Toulouse, France, *Gains and losses are fundamentally different for regret minimization: the sparse case.*
- January 2016 Geometry, Evolution and Learning in Games, Superbagnères, France, *Sparse regret minimization.*
- December 2015 TAO Seminar, LRI, Université Paris-Sud, *Sparse regret minimization.*
- November 2015 Stochastic Methods on Game Theory, National University of Singapore, *Gains and losses are fundamentally different for regret minimization: the sparse case.*
- November 2015 PhD Game Theory Seminar, Henri Poincaré Institute, *Sparse Regret Minimization.*
- March 2014 SMAI-MODE Days, Rennes, France, *Regret minimization strategies and links with convex optimization.*
- October 2013 Workshop: Repeated games, discrete and continuous time, Roscoff, France, *Adaptive Strategies and convex optimization algorithms.*
- October 2013 Workshop on Algorithms and Dynamics for Games and Optimization, Playa Blanca, Tongoy, Chile, *On Adaptive Strategies and Convex Optimization Algorithms.*

- September 2013 Fourth Workshop on Stochastic Methods in Game Theory, Erice, Italy, *Adaptive Strategies based on Smooth-Best-Reply Maps*.
- February 2013 PhD Game Theory Seminar, Institut Henri Poincaré, *Entropy-driven Dynamics in Online Convex Optimization*.
- October 2012 PhD Game Theory Seminar, Institut Henri Poincaré, *Exponential weight algorithm in continuous time with convex losses*.

CONFERENCE & STAYS

- January 2018 *Optimization for Learning Workshop*, Pontificia Universidad Católica de Chile, Santiago, Chile.
- July 2017 *Conference on Learning Theory (COLT)*, Amsterdam, The Netherlands.
- April 2017 *Artificial Intelligence and Statistics (AISTATS)*, Fort Lauderdale, Florida, United States.
- November 2016 One-month invitation at the *Universidad de Chile*, Santiago, Chile.
- March 2016 *SMAI-MODE Days*, Toulouse, France.
- January 2016 *Geometry, Evolution and Learning in Games*, Superbagnères, France.
- November 2015 *Stochastic Methods in Game Theory — Tutorial and Workshop on Learning*, National University of Singapore.
- July 2015 *Conference on Learning Theory (COLT)*, Paris, France.
- May 2015 *French Symposium on Game Theory and Applications*, Paris, France.
- September 2014 *Multidisciplinary Summer School Game Theory*, Aussois, France.
- July 2014 *Mathematical Aspects of Game Theory and Applications*, Roscoff, France.
- March 2014 *SMAI-MODE Days*, Rennes, France.
- October 2013 *Workshop: Repeated games, discrete and continuous time*, Roscoff, France.
- October 2013 *Workshop on Algorithms and Dynamics for Games and Optimization*, Playa Blanca, Tongoy, Chile.
- September 2013 *Fourth Workshop on Stochastic Methods in Game Theory*, Centro di cultura scientifica Ettore Majorana, Erice, Italy.
- June–July 2013 *Stochastic Dynamics in Economics and Finance*, Hausdorff Trimester Program, May 31–July 24, Hausdorff Research Institute for Mathematics, Bonn, Germany.
- October 2012 *Workshop: Repeated Games, Differential Games*, October 10–12, Nemour, France.

REVIEWING WORK

Algorithmic Learning Theory (ALT) — Conference on Learning Theory (COLT) — European Journal of Operational Research — International Conference on Artificial Intelligence and Statistics (AISTATS) — International Journal of Game Theory — Journal of Dynamics and Games — Mathematical Control and Related Fields — Neural Information Processing Systems (NIPS) — Statistics and Probability Letters — Stochastic Processes and their Applications — Theory and Decision

TEACHING

- 2017–2018 Statistical Learning (TA), *ENSAE*.
- 2017–2018 Game Theory (TA), *ENPC*.
- 2016–2017 Introduction to Research, *Université Paris-Dauphine*.
- 2016–2017 Game Theory (TA), *ENPC*.
- 2015–2016 Series and integrals 2M261 (L2, TA), *Université Pierre-et-Marie-Curie*.
- 2015–2016 Series and integrals 2M250 (L2, TA), *Université Pierre-et-Marie-Curie*.
- 2014–2015 Decision Theory and Game Theory (TA), *ENPC*.
- 2014–2015 Series and Integrals 2M460 (L2, TA), *Université Pierre-et-Marie-Curie*.
- February 2014 Teacher at the Cachan Internship of the French Olympiads of Mathematics.
- 2013–2014 Oral examinations in Mathematics (MP*), *Lycée Henri IV*.
- 2013–2016 Teacher at the Olympic Training Course organized by the Animath association.
- 2013–2015 Teacher at the Parimaths Mathematics Club (formerly the Orsay Mathematics Club).
- 2012–2013 Oral examinations in Mathematics (MP*), *Lycée Charlemagne*.
- 2011–2013 Teacher at the Mathematics Club, *Lycée Charlemagne*.
- 2011–2012 Oral examinations in Mathematics (MPSI), *Lycée Charlemagne*.

EVENT ORGANIZATION

- 2018 Member of the organizing committee of the international conference *Paris Symposium on Games*.
- 2014 Organizer of the *French Tournament of Young Mathematicians*.