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Personal Information

Name / Surname	Panayotis Mertikopoulos
Place of Birth	Athens, Greece
Nationality	Greek
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Research Interests

Game theory; optimization; learning theory; machine learning; networks; operations research

Education

2019 — **Université Grenoble Alpes** — Grenoble, FR
Habilitation à Diriger des Recherches (HDR) in Computer Science and Applied Mathematics
Thesis: *Online Optimization and Learning in Games: Theory and Applications*

2007–2010 — **University of Athens, Department of Physics** — Athens, GR
Doctorate of Philosophy (PhD)
Thesis: *Stochastic Perturbations in Game Theory and Applications to Networks*

2003–2006 — **Brown University, Department of Mathematics** — Providence, RI, USA
Master of Science in Mathematics (May 2005) with a GPA of 4.0/4.0 (*summa cum laude*)
Adm. Cand. for the PhD degree in Mathematics (M.Phil. equivalent; Sept. 2005)
Dissertation: "*Reduction Theorems in Generalized Complex Geometry*"

1998–2003 — **University of Athens, Department of Physics** — Athens, GR
Ptychion degree in Physics (July 2003) with a GPA of 9.1/10 (*summa cum laude*)
Dissertation: *Gauss's law and Residue Calculus in the Framework of de Rham Cohomology*

Professional Experience

2011–present — **CNRS – French National Center for Scientific Research** — Grenoble, FR
Principal researcher (*chargé de recherche*) in the Laboratoire d'Informatique de Grenoble

2022 & 2018 — **UC Berkeley** — Berkeley, CA, USA
Visiting scientist at the Simons Institute for the Theory of Computing

2019, fall — **École Polytechnique Fédérale de Lausanne (EPFL)** — Lausanne, CH
Visiting scholar at the Laboratory for Information and Inference Systems (LIONS)

2016, fall — **LUISS Guido Carli University** — Rome, IT
Visiting professor

2010–2011 — **École Polytechnique, Department of Economics** — Paris, FR
Post-doctoral researcher in game theory

Distinctions, Grants, and Fellowships

Distinctions and Awards

2022 — INFORMS best paper award in network science for [20]

2022 — Long talk at ICML 2022 for [59]

2022	Outstanding reviewer award at ICLR 2022
2021	Long talk at ICML 2021 for [74]
2020	Finalist for the bronze medal of the CNRS in 2020
2020	Two spotlights at NeurIPS 2020 for [76, 78]
2020	Spotlight at ICLR 2020 for [84]
2018	Outstanding reviewer award at NeurIPS 2018
2012	Best paper award at NETGCOOP 2012 for [127]
2003	Valedictorian in the Physics Department of the Unviversity of Athens

Awarded Grants

2020–2023	**ALIAS** – *Adaptive learning for interacting agents and systems* French National Research Agency international collaboration grant (ANR PRCI), co-PI
2020–2022	**DISCMAN** – *Distributed control for multi-agent systems and networks* "Investissements d'avenir" project (ANR-IDEX), PI
2017–2022	**GAMENET** – *European Network for Game Theory* EU COST action; working group chair
2016–2020	**ORACLESS** – *Online resource allocation for unpredictable large-scale wireless systems* French National Research Agency starting grant (ANR JCJC), PI
2017–2018	**ULTRON** – *Ultra-low latency scheduling via online learning* Huawei FLAGSHIP grant, PI
2018	**MixedGAN** – *Mixed-strategy generative adversarial networks* CNRS exploratory grant (PEPS I3A); co-PI
2014–2017	**GAGA** – *Geometric aspects of games* ANR grant; co-PI
2017	**HEAVY.NET** – *Optimization and analysis of heavily congested networks* PGMO/PRMO grant; PI
2016	**REAL.net** – *Resource allocation in dynamic network environments* CNRS exploratory grant (PEPS JCJC); PI
2014–2015	**GATHERING** – *Game theory, evolution and randomness in networks and graphs* CNRS exploratory grant (PEPS HuMaIn); PI
2012–2013	**LACODS** – *Learning algorithms for control and optimization in distributed systems* MSTIC (French competitiveness pole) career development grant; PI

Fellowships

2003–2004	**Brown University** *Dean's Fellow* (fellowship awarded to meritorious incoming graduate students)	Providence, RI, USA
2003–2006	**Embeirikeion Foundation** Three-year fellowship in support of mathematical studies abroad	Athens, GR

Advising and Teaching

Post-docs

- Dong Quan Vu (2020–2022): Online optimization for path planning #ANR ALIAS
- Olivier Bilenne (2018–2020): MIMO gradient-free optimization #ANR ORACLESS
- Amélie Héliou (2017–2018): multi-agent bandit learning #ULTRON
- Luigi Vigneri (2017–2018): scalable latency minimization #ULTRON
- Ioannis Stiakogiannakis (2014–2015): dynamic MIMO systems #ANR NETLEARN
- Nof Abuzainab (2014–2015): game theory for cognitive radio #Inria

PhD students	• Davide Legacci (2022–present; co-supervised with B. Pradelski, CNRS) Topic: "*The geometry of learning in games*" • Waïss Azizian (2022–present; co-supervised with J. Malick, CNRS) Topic: "*Robust min-max optimization methods for machine learning*" • Victor Boone (2021–present; co-supervised with B. Gaujal, Inria) Topic: "*Reinforcement learning in games*" • Yu-Guan Hsieh (2019–present; co-supervised with J. Malick, CNRS & F. Iutzeler, UGA) Topic: "*Extra-gradient methods for variational inequalities and machine learning*" • Benjamin Roussillon (2018–2021; co-supervised with P. Loiseau, Inria) Topic: "*Classification en présence de données adverses : modèles et solutions*" • Kimon Antonakopoulos (2017–2021; co-supervised with E. V. Belmega, ENSEA) Topic: "*Online learning in variational inequality problems*" • Bruno Donassolo (2017–2020; co-supervised with A. Legrand, CNRS & I. Fajjari, Orange) Topic: "*Decentralized management of applications in Fog computing environments*" • Alexandre Marcastel (2015–2019; co-supervised with E. V. Belmega, ENSEA) Topic: "*Allocation de puissance en ligne dans un réseau IoT dynamique et non-prédictible*"
Graduate level	Game theory, learning, optimization
Undergraduate level	Probability theory, stochastic processes; advanced algorithms
Seminar Courses	NTUA/NKUA (2021): Tutorial course on algorithmic game theory French Days on Optimization (2020): Tutorial course on algorithmic game theory EPFL (2019): Tutorial course on the mathematics of data science Trinity College Dublin (2019): Summer school on online optimization for wireless systems UC Berkeley (2018): Tutorial course on real-time decision-making RESCOM (2012): Summer school on the applications of game theory to data networks

Scientific Leadership and Engagement

Editorial Activities and Technical Chairing

Guest editor	• *EURO Journal on Computational Optimization* (EJCO) SI on "*Optimization Challenges in Data Science*", co-edited with C. Cartis (Oxford) • *Journal of Dynamics and Games* (JDG) SI on "*Population Games and Evolutionary Dynamics in Memory of William H. Sandholm*", co-edited with M. Benaïm (U. Neuchâtel), J. Hofbauer (U. Vienna), and S. Sorin (Sorbonne)
Associate editor	• *Operations Research Letters* (ORL), 2021–present • *RAIRO – Operations Research*, 2021–present • *EURO Journal on Computational Optimization* (EJCO), 2020–present • *Methodology and Computing in Applied Probability* (MCAP), 2019–present • *Journal on Dynamics and Games* (JDG), 2018–present
Conference chairing	• Area chair for ICML, 2023–present • Area chair for ICLR, 2020–present • Area chair for NeurIPS, 2019–present • TPC co-chair for NetGCoop 2020 • TPC co-chair for WiOpt 2014
Reviewing (journals)	*Advances in Applied Probability*, *Annals of Operations Research*, *Dynamic Games and Applications*, *Games and Economic Behavior*, *IEEE Access*, *IEEE Journal on Selected Areas in Communications*, *IEEE Transactions on Information Theory / Signal Processing / Communications / Wireless Communications*, *IEEE/ACM Transactions on Networking*, *Journal of Economic Theory*, *Journal of Optimization Theory and Applications*, *Mathematics of Operations Research*, *Mathematical Programming*, *Operations Research*, *SIAM Journal on Control and Optimization*, *SIAM Journal on Optimization*, *Theoretical Economics*, …
Reviewing (conf.)	NeurIPS, ICML, ICLR, COLT, AAAI, SODA, IEEE CDC

Coordination Activities and Committee Service

2017–2022	Working group coordinator of the European Network for Game Theory (GAMENET)
2021	Member of selection committee (CoS) for an MCF position at Univ. Gustave-Eiffel, on "*Sciences des données, Apprentissage, Méthodes mathématiques*"
2020	Member of selection committee (CoS) for an MCF position at Grenoble IAE, Univ. Grenoble-Alpes, on "*Intelligence des données: de l'extraction d'information à l'aide à la décision*"
2014–2020	Member of the steering committee (*comité de liaison*) of the optimization and decision theory group of the French Society for Industrial and Applied Mathematics (SMAI–MODE)
2011–2019	Graduate students liaison (*chargé de mission doctorants*) for the LIG

PhD Committees

2023	Rémi Leluc, Institut Polytechnique de Paris; *examinateur* Topic: "*Monte Carlo Methods and Stochastic Approximation: Theory and Applications to Machine Learning*"
2022	Geovani Rizk, Université Paris-Dauphine; *rapporteur* Topic: "*Stochastic graphical bilinear bandits*"
2022	Laurent Meunier, Université Paris-Dauphine; *rapporteur* Topic: "*Adversarial attacks: A theoretical journey*"
2022	Juliette Achddou, École Normale Supérieure; *rapporteur* Topic: "*Zeroth-order optimization for real-time bidding: A mathematical perspective*"
2021	Yassine Laguel, Univ. Grenoble–Alpes; *examinateur* Topic: "*Optimisation convexe pour l'apprentissage robuste au risque*"
2020	Xavier Fontaine, Université Paris-Saclay; *rapporteur* Topic: "*Sequential learning and stochastic optimization of convex functions*"
2020	Rafael Pinot, Université Paris-Dauphine; *rapporteur* Topic: "*On the impact of randomization on robustness in machine learning*"
2020	Ya-Ping Hsieh, EPFL, *reviewer* Topic: "*Convergence without convexity: Sampling, optimization, and games*"
2018	Adil Salim, TELECOM ParisTech; *examinateur* Topic: "*Random monotone operators and application to stochastic optimization*"
2014	Tatiana Seregina, Université de Toulouse; *examinateur* Topic: "*Applications of game theory to distributed routing and delay-tolerant networking*"

Conference Organization

2022, Singapore (SG)	Co-organizer of the IMS program on "Games, Learning, and Networks"
2022, Erice (IT)	Co-organizer of the 7th workshop on "Stochastic Methods in Game Theory"
2021, Cargèse (FR)	Technical program co-chair of NetGCoOp 2020 (postponed from 2020)
2019, Chania (GR)	Co-organizer of the workshop "Twenty years of the Price of Anarchy" (20PoA)
2018, Paris (FR)	Co-organizer of the 2018 Paris Symposium on Game Theory
2018, Grenoble (FR)	General co-chair of the 2018 French Days on Optimization and Decision Science ("*Journées SMAI–MODE 2018*")
2018, Vienna (AT)	Co-organizer of the 2018 Workshop on Games, Dynamics and Optimization (GDO 2018)
2016, Luchon (FR)	General co-chair of the GEL 2016 workshop on "*Geometry, Evolution and Learning in Games*"
2015, Seignosse (FR)	Organizer of the mini-symposium "*Games, Learning and Applications*" in SMAI 2015
2014, Barcelona (ES)	Co-organizer of the track "*Dynamics and Learning in Games*" in IFORS 2014
2013, Grenoble (FR)	General co-chair of the 2013 Intl. Workshop on Algorithmic Game Theory (AlgoGT 2013)

2013, Tsukuba (JP)	Publications chair of the 11th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2013)
2012, Cargèse (FR)	Publications chair of the 7th Intl. Conference on Performance Evaluation, Methodologies and Tools (Valuetools 2013)

Participation in Research Projects and Networks

2022-2024	**NG-HARD** – *Next Generation of Hardness Results in Total Search* Research project funded by the EPSRC (UK)
2021-2024	**InfoMar** – *Information and Computation in Market Design* Research network funded by the Chilean National Research and Development Agency (ANID)
2016–2018	**LEARN** – *Learning algorithms for games and applications* Franco-Chilean Network of Excellence, co-financed by ECOS-Sud and CONICYT
2013–2017	**NETLEARN** – *Learning algorithms orchestration for mobile networks resource management* Research project financed by the French National Research Agency (ANR)
2012–2015	**NEWCOM#** – *Network of excellence in wireless communications* Network of Excellence formed under FP7
2012–2016	**ADGO** – *Algorithms and dynamics in games and optimization* Franco-Chilean network funded by the Chilean National Research Agency (CONICYT)
2006–2009	**NET-REFOUND** – *Network research foundations and trends* Specific Targeted Research Project funded by the EU under FP6

Invited Talks and Tutorials (last 5 years only)

Tutorials

2022	**Archimedes research center for Artificial Intelligence and Data Science** "*A crash course in optimization for machine learning*"	Athens, GR
2022	**NTUA/ALMA tutorial on Algorithmic Game Theory** "*From convex optimization to learning in games*"	Athens, GR
2022	**French Days on Operations Research (ROADEF 2022)** "*Online learning in games: Regret, equilibrium, and the road ahead*"	Lyon, FR
2020	**French Days on Optimization and Decision Science (SMAI-MODE 2020)** "*Algorithmic game theory: from multi-agent optimization to online learning*"	Virtual
2019	**CONNECT Summer School on Machine Learning for Communications** "*Online learning and optimization for wireless systems*"	Dublin, IE

Invited talks in conferences, workshops, and seminar series

2023	**Optimization, learning, and games: Celebrating R. Cominetti's 60th birthday** "*Adaptive routing in large-scale networks*"	Viña del Mar, CL
2022	**Eccellenza workshop: Algorithmic game theory, mechanism design, and learning** "*On the limits – and limitations – of learning in games*"	Turin, IT
2022	**Amazon Science Summit** "*Equilibrium and optimality under uncertainty*"	Barcelona, ES
2022	**Second Congress of Greek Mathematicians** "*The dynamics of artificial intelligence*"	Athens, GR
2022	**Controversies in Game Theory Symposium** "*The limits of game-theoretic learning*"	ETH Zürich, CH
2022	**Games mini-symposium, *Journées SMAI-MODE 2022*** "*Nested replicator dynamics and nested logit choice*"	Limoges, FR
2022	**AAMAS 2022, Learning with Strategic Agents Keynote** "*The limits – and limit points – of learning in games*"	Auckland, NZ (virtual)

2022	**Learning in the Presence of Strategic Behavior** "*The limits of regularized learning in games*"	Berkeley, CA, USA
2022	**Adversarial Approaches in Machine Learning** "*Min-max optimization from a dynamical systems viewpoint*"	Berkeley, CA, USA
2021	**TOUTELIA 2021** "*Optimization, games, and dynamical systems*"	Toulouse, FR
2020	**Huawei Disruptive Technologies Seminar Series** "*Mirror descent and its applications – old and new*"	Paris, FR
2020	**One Wolrd Optimization Seminar / One World Game Theory Seminar** "*Games, dynamics, and optimization*"	Virtual
2020	**GDO 2020 – Games, Dynamics and Optimization** "*Learning in time-varying games*"	Rome, IT
2020	**Paris Game Theory Seminar (Institut Henri Poincaré)** "*Learning with scarce feedback*"	Paris, FR
2019	**NPCG 2019 – Network, Population and Congestion Games** "*No-regret learning in games*"	Paris, FR
2019	**GDO 2019 – Games, Dynamics and Optimization** "*Hessian barrier algorithms for linearly constrained optimization problems*"	Cluj-Napoca, RO
2019	**OSL 2019 – Optimization and Statistical Learning** "*Extra-gradient methods for variational inequalities*"	Les Houches, FR
2018	**PGMO Days 2018** "*Learning dynamics for routing problems*"	Paris, FR
2018	**GDO 2018 – Games, Dynamics and Optimization** "*Bandit learning in concave N-person games*"	Vienna, AT

Talks in universities and research institutes

2023	**University of Athens – Department of Mathematics** "*From Robbins–Monro to artificial intelligence: 70 years of stochastic approximation*"	Athens, GR
2023	**DeepMind** "*Accelerated and optimistic methods for learning*"	Virtual
2023	**University of Athens – Department of Operations Research** "*Adaptive routing under uncertainty*"	Athens, GR
2022	**Purdue University** "*Limits – and limitations – of online learning in games*"	Lafayette, IN, USA
2022	**University of Athens – Department of Mathematics** "*The evolution of learning in games*"	Athens, GR
2021	**NYU Operations Management Series** "*Adaptive Routing in Large-scale Networks: Optimality Under Uncertainty*"	New York, NY, USA
2021	**NTUA – Computation and Reasoning Laboratory** "*Online learning in games*"	Athens, GR
2021	**RWTH Aachen – Mathematics and Information Processing Seminar** "*Generalized Robbins-Monro algorithms for min-min and min-max optimization*"	Aachen, DE
2021	**Télécom ParisTech – Signal, Statistics & Learning Seminar** "*Online optimization: A unified view through the lens of stochastic approximation*"	Paris, FR
2021	**TSE – MAD-Stat Seminar** "*Dynamics, (min-max) optimization, and games*"	Toulouse, FR
2021	**Montréal Machine Learning and Optimization Seminar** "*Spurious attractors in min-max optimization*"	Montréal, CA
2020	**National Technical University of Athens (CoreLab seminar)** "*Games, dynamics, and spurious attractors*"	Athens, GR
2019	**LUISS Guido Carli University** "*From Hannan to Nash: cycles, learning, and equilibrium*"	Rome, IT

2019	**École polytechnique fédérale de Lausanne (EPFL)**	Lausanne, Switzerland
	"*Going the extra (gradient) mile in GAN training*"	
2019	**Criteo AI Lab**	Paris, FR
	"*Applications of multi-agent learning to computational advertising*"	
2018	**Trinity College**	Dublin, IE
	"*Efficient network utility maximization algorithms*"	
2018	**National Technical University of Athens (Athens Polytechnic)**	Athens, GR
	"*Traffic in congested networks: Equilibrium, efficiency, and dynamics*"	
2018	**Google Inc.**	Mountain View, CA, USA
	"*Accelerated and optimistic methods for learning*"	
2018	**UC Berkeley – Simons Institute for the Theory of Computing**	Berkeley, CA, USA
	"*Online learning in games*"	

Publications and Scientific Output

Dissertations (3)

[1] Mertikopoulos, P. *Online Optimization and Learning in Games: Theory and Applications*. Habilitation à Diriger des Recherches (HDR), Université Grenoble-Alpes, December 2019.

[2] Mertikopoulos, P. *Stochastic Perturbations in Game Theory and Applications to Networks*. PhD thesis, National and Kapodistrian University of Athens, November 2010.

[3] Mertikopoulos, P. *Gauss's Law and Residue Calculus in the Framework of de Rham Cohomology*. Major thesis, National and Kapodistrian University of Athens, May 2003.

Software (1)

[4] Mertikopoulos, P. `GameSeer`: visualization software for game dynamics. Available under the GNU public license at: http://polaris.imag.fr/panayotis.mertikopoulos/files/GameSeer.zip, 2014.

Working / Submitted Papers (8)

[5] Lotidis, K., Mertikopoulos, P., and Bambos, N. Learning in quantum games. https://arxiv.org/abs/2302.02333, 2023.

[6] Azizian, W., Iutzeler, F., Malick, J., and Mertikopoulos, P. On the rate of convergence of Bregman proximal methods in constrained variational inequalities. http://arxiv.org/abs/2211.08043, 2022.

[7] Lin, T., Mertikopoulos, P., and Jordan, M. I. Explicit second-order min-max optimization methods with optimal convergence guarantees. https://arxiv.org/abs/2210.12860, 2022.

[8] Mertikopoulos, P., Hsieh, Y.-P., and Cevher, V. A unified stochastic approximation framework for learning in games. https://arxiv.org/abs/2206.03922, 2022.

[9] Zhou, Z., Mertikopoulos, P., Bambos, N., Glynn, P. W., and Tomlin, C. Multi-agent online learning with imperfect information. Under review, 2018.

[10] Belmega, E. V., Mertikopoulos, P., Negrel, R., and Sanguinetti, L. Online convex optimization and no-regret learning: Algorithms, guarantees and applications. https://arxiv.org/abs/1804.04529, 2018.

[11] Stiakogiannakis, I., Mertikopoulos, P., and Touati, C. Power control via online learning in non-stationary MIMO networks. http://arxiv.org/abs/1503.02155, 2018.

[12] Mertikopoulos, P., Moustakas, A. L., and Tzanakaki, A. Boltzmann meets Nash: Energy-efficient routing in optical networks under uncertainty. https://arxiv.org/abs/1605.01451, 2016.

Journal Papers (40)

[13] Duvocelle, B., Mertikopoulos, P., Staudigl, M., and Vermeulen, D. Multi-agent online learning in time-varying games. *Mathematics of Operations Research*, to appear.

[14] Hadikhanloo, S., Laraki, R., Mertikopoulos, P., and Sorin, S. Learning in nonatomic games, Part I: Finite action spaces and population games. *Journal of Dynamics and Games*, 9(4, William H. Sandholm memorial issue):433–460, October 2022.

[15] Mertikopoulos, P. and Viossat, Y. Survival of dominated strategies under imitation dynamics. *Journal of Dynamics and Games*, 9(4, William H. Sandholm memorial issue):499–528, October 2022.

[16] Zhou, Z., Mertikopoulos, P., Bambos, N., Glynn, P. W., and Ye, Y. Distributed stochastic optimization with large delays. *Mathematics of Operations Research*, 47(3):2082–2111, August 2022.

[17] Hsieh, Y.-G., Iutzeler, F., Malick, J., and Mertikopoulos, P. Multi-agent online optimization with delays: Asynchronicity, adaptivity, and optimism. *Journal of Machine Learning Research*, 23(78):1–49, May 2022.

[18] Donassolo, B., Legrand, A., Mertikopoulos, P., and Fajjari, I. Online reconfiguration of IoT applications in the Fog: The information-coordination trade-off. *IEEE Trans. Parallel Distrib. Syst.*, 33(5):1156–1172, May 2022.

[19] Boţ, R. I., Mertikopoulos, P., Staudigl, M., and Vuong, P. T. Minibatch forward-backward-forward methods for solving stochastic variational inequalities. *Stochastic Systems*, 11(2):112–139, June 2021.

[20] Zhou, Z., Mertikopoulos, P., Moustakas, A. L., Bambos, N., and Glynn, P. W. Robust power management via learning and game design. *Operations Research*, 69(1):331–345, January 2021.

[21] Bilenne, O., Mertikopoulos, P., and Belmega, E. V. Fast optimization with zeroth-order feedback in distributed multi-user MIMO systems. *IEEE Trans. Signal Process.*, 68:6085–6100, October 2020.

[22] Zhou, Z., Mertikopoulos, P., Bambos, N., Boyd, S. P., and Glynn, P. W. On the convergence of mirror descent beyond stochastic convex programming. *SIAM Journal on Optimization*, 30(1):687–716, 2020.

[23] Colini-Baldeschi, R., Cominetti, R., Mertikopoulos, P., and Scarsini, M. When is selfish routing bad? The price of anarchy in light and heavy traffic. *Operations Research*, 68(2):411–434, March 2020.

[24] Marcastel, A., Belmega, E. V., Mertikopoulos, P., and Fijalkow, I. Online power optimization in feedback-limited, dynamic and unpredictable IoT networks. *IEEE Trans. Signal Process.*, 67(11):2987–3000, June 2019.

[25] Bomze, I. M., Mertikopoulos, P., Schachinger, W., and Staudigl, M. Hessian barrier algorithms for linearly constrained optimization problems. *SIAM Journal on Optimization*, 29(3):2100–2127, 2019.

[26] Mertikopoulos, P. and Zhou, Z. Learning in games with continuous action sets and unknown payoff functions. *Mathematical Programming*, 173(1-2):465–507, January 2019.

[27] Mertikopoulos, P. and Staudigl, M. Stochastic mirror descent dynamics and their convergence in monotone variational inequalities. *Journal of Optimization Theory and Applications*, 179(3):838–867, December 2018.

[28] Mertikopoulos, P. and Sandholm, W. H. Riemannian game dynamics. *Journal of Economic Theory*, 177:315–364, September 2018.

[29] Mertikopoulos, P. and Staudigl, M. On the convergence of gradient-like flows with noisy gradient input. *SIAM Journal on Optimization*, 28(1):163–197, January 2018.

[30] Bravo, M. and Mertikopoulos, P. On the robustness of learning in games with stochastically perturbed payoff observations. *Games and Economic Behavior*, 103(John Nash Memorial issue):41–66, May 2017.

[31] Mertikopoulos, P., Belmega, E. V., Negrel, R., and Sanguinetti, L. Distributed stochastic optimization via matrix exponential learning. *IEEE Trans. Signal Process.*, 65(9):2277–2290, May 2017.

[32] Kwon, J. and Mertikopoulos, P. A continuous-time approach to online optimization. *Journal of Dynamics and Games*, 4(2): 125–148, April 2017.

[33] Shafigh, A. S., Mertikopoulos, P., Glisic, S., and Fang, Y. M. Semi-cognitive radio networks: A novel dynamic spectrum sharing mechanism. *IEEE Trans. on Cogn. Commun. Netw.*, 3(1):97–111, March 2017.

[34] D'Oro, S., Galluccio, L., Mertikopoulos, P., Morabito, G., and Palazzo, S. Auction-based resource allocation in OpenFlow multi-tenant networks. *Computer Networks*, 115:29–41, March 2017.

[35] Perkins, S., Mertikopoulos, P., and Leslie, D. S. Mixed-strategy learning with continuous action sets. *IEEE Trans. Autom. Control*, 62(1):379–384, January 2017.

[36] Mertikopoulos, P. and Sandholm, W. H. Learning in games via reinforcement and regularization. *Mathematics of Operations Research*, 41(4):1297–1324, November 2016.

[37] Moustakas, A. L., Mertikopoulos, P., and Bambos, N. Power optimization in random wireless networks. *IEEE Trans. Inf. Theory*, 62(9):5030–5058, September 2016.

[38] Gaujal, B. and Mertikopoulos, P. A stochastic approximation algorithm for stochastic semidefinite programming. *Probability in the Engineering and Informational Sciences*, 30(3):431–454, July 2016.

[39] Mertikopoulos, P. and Viossat, Y. Imitation dynamics with payoff shocks. *International Journal of Game Theory*, 45(1-2): 291–320, March 2016.

[40] Mertikopoulos, P. and Belmega, E. V. Learning to be green: Robust energy efficiency maximization in dynamic MIMO-OFDM systems. *IEEE J. Sel. Areas Commun.*, 34(4):743 – 757, April 2016.

[41] Mertikopoulos, P. and Moustakas, A. L. Learning in an uncertain world: MIMO covariance matrix optimization with imperfect feedback. *IEEE Trans. Signal Process.*, 64(1):5–18, January 2016.

[42] Laraki, R. and Mertikopoulos, P. Inertial game dynamics and applications to constrained optimization. *SIAM Journal on Control and Optimization*, 53(5):3141–3170, October 2015.

[43] D'Oro, S., Mertikopoulos, P., Moustakas, A. L., and Palazzo, S. Interference-based pricing for opportunistic multi-carrier cognitive radio systems. *IEEE Trans. Wireless Commun.*, 14(12):6536–6549, December 2015.

[44] Bacci, G., Belmega, E. V., Mertikopoulos, P., and Sanguinetti, L. Energy-aware competitive power allocation for heterogeneous networks under QoS constraints. *IEEE Trans. Wireless Commun.*, 14(9):4728–4742, September 2015.

[45] Coucheney, P., Gaujal, B., and Mertikopoulos, P. Penalty-regulated dynamics and robust learning procedures in games. *Mathematics of Operations Research*, 40(3):611–633, August 2015.

[46] Mertikopoulos, P. and Belmega, E. V. Transmit without regrets: online optimization in MIMO–OFDM cognitive radio systems. *IEEE J. Sel. Areas Commun.*, 32(11):1987–1999, November 2014.

[47] Laraki, R. and Mertikopoulos, P. Higher order game dynamics. *Journal of Economic Theory*, 148(6):2666–2695, November 2013.

[48] Mertikopoulos, P., Belmega, E. V., Moustakas, A. L., and Lasaulce, S. Distributed learning policies for power allocation in multiple access channels. *IEEE J. Sel. Areas Commun.*, 30(1):96–106, January 2012.

[49] Pawlowitsch, C., Mertikopoulos, P., and Ritt, N. Neutral stability, drift, and the diversification of languages. *Journal of Theoretical Biology*, 287:1–12, July 2011.

[50] Kazakopoulos, P., Mertikopoulos, P., Moustakas, A. L., and Caire, G. Living at the edge: a large deviations approach to the outage MIMO capacity. *IEEE Trans. Inf. Theory*, 57(4):1984–2007, April 2011.

[51] Mertikopoulos, P. and Moustakas, A. L. The emergence of rational behavior in the presence of stochastic perturbations. *The Annals of Applied Probability*, 20(4):1359–1388, July 2010.

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Conference Papers (83)

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