CURRICULUM VITAE

Odalric-ambrym Maillard

October 12, 1984, Nouméa (France), ORCID 0000-0001-7935-7026 ⊕Personal website ⭘Gitlab 🎓Google sholar
Inria Lille – Nord Europe, Equipe SCOOL, Bureau A10, 59650 Villeneuve d'Ascq FRANCE, (+33) 03 59 57 79 06

Academic position

11.02.2019	**Habilitation à diriger des recherches** from University of Lille, France
01.2017 -	**Chargé de Recherche Inria (CRCN)** in SequeL Team, France
	Inria Lille - Nord europe
10.2016 - 12.2016	**Chargé de Recherche Inria (CR2)** in SequeL Team, France
	Inria Lille - Nord europe
01.2015 - 09.2016	**Chargé de Recherche Inria (CR2)** in TAO Team, France
	Inria Saclay - Île de France
06.2014 - 12.2014	**Senior Researcher** in Israel, team of **Shie Mannor**
	The Technion, Faculty of Electrical Engineering
02.2013 - 05.2014	**Postdoc** in Israel, with **Shie Mannor**
	The Technion, Faculty of Electrical Engineering
	FP7 **European Project** SUPREL (Scaling-Up Reinforcement Learning)
2011 - 01.2013	**Postdoc** in Austria, with **Peter Auer**
	Montanuniversität Leoben, Lehrstuhl für Informationstechnologie
	FP7 **European Project** CompLacs (Composing Learning for Artificial Cognitive Systems),
2008 - 2011	**Ph.D.** in France "*Apprentissage Séquentiel : Bandits, Statistique et Renforcement.*"
	INRIA Lille - Nord europe, **SequeL** *Team-Project,* selective grant from ENS Cachan (rank 1)
	Advisors: **Rémi Munos** (INRIA Lille - Nord Europe), **Philippe Berthet** (IMT, Toulouse)
	[**Ph.D. 1st prize from AFIA** (Association Française pour l'Intelligence Artificielle) **2012**].
	PASCAL2 European network of excellence (since 2010)

Education

2008	**Diploma from École Normale Supérieure de Cachan**
2007 - 2008	**Master 2 of research in Computer Science: "Master Vision et Apprentissage" (MVA)**
	common to Ulm/Cachan/X/Mines/Ponts/Telecom/Centrale/Paris V/XIII/Dauphine (rank 1)
2006 - 2007	**Master 2 of research in Mathematics: "Théorie Statistique"**
	IRMAR, University of Rennes 1 (rank 1)
2004 - 2006	**École Normale Supérieure de Cachan ("3/2", Ker Lann)**
	Magistère ($\sim$150% of Bsc+Msc) in Computer science (DIT) and in Mathematics (DMMI)
	in parallel. 1st year: rank 3 (DIT), 7 (DMMI), 2nd year: rank 2 (DIT), 7 (DMMI)

Grants

2021 co-PI of **RLRL** "Real-Life Reinforcement Learning" project with B. De Saporta, 20k.
2021 - 2024 co-PI of **Chaire IA AppRenf** on reinforcement learning with P. Preux, 400k.
2019 - 2023 PI of **INRIA Action Exploratoire** AEx "Sequential Recommendation for Sustainable Gardening (SR4SG)", 165k, https://project.inria.fr/sr4sg, gathering AI and AgroEcology research to recommend good gardening practice.
2019 - 2022 Member (10%) of **I-SITE** project "Bandits for Health (B4H)", with Lille Hospital, PI F. Pattou & P. Preux.
2019 - 2020 Involved (5%) in project "Learning Framework for Radio resource Allocation in LoRaWaAN", PI K. Khawam.
2016 - 2020 PI of **ANR JCJC** project "Bandits against non-Stationarity and Structure (BADASS)", 180k with E. Kaufmann and R. Combes. https://project.inria.fr/badass/ Postdoctorant: M.S. Talebi, and PhD: S. W. Akhtar
2016 - **IFCAM project** "Contextual multi-armed bandits with hidden structure", with Aditya Gopalan (Bangalore), 7k.
2015 - **Programme Invité Digiteo**, 4k: Invitation of A. Gopalan for 3 weeks.
2015 - **PEPS JCJC - INS2I** project "PROMO" with R. Bardenet (CNRS, Lille), 7k.
2015 - **INRIA-Carnot** "Outil générique de prévision/contrôle de flux hydrauliques" with Prolog and O. Teytaud (1y engineer).

Notable facts

2 NeurIPS Oral presentations, 1 ACML Best student paper award.
2016 - 2020 Prime d'encadrement doctoral et de recherche (PEDR).
August 2015 - Part of the 200 young researchers internationally selected to attend the Heidelberg Laureate Forum and meet Abel, Fields and Turing laureates.
May 2015 - Participation to the Association Technion France (ATF) delegation in Israël.
2012 - **Ph.D. 1st prize from AFIA (Association Française pour l'Intelligence Artificielle).**

Selective list of publication (out of +60 international, peer-reviewed publications)

Tightening Exploration in Upper Confidence Reinforcement Learning, H. Bourel, MS. Talebi, O.-A. Maillard, **ICML** 2020.
Streaming kernel regression with provably adaptive mean, variance and regularization, A. Durand, O.-A. Maillard, J. Pineau, **Journal of Machine Learning Research** (JMLR), 2018.

Variance-Aware Regret Bounds for Undiscounted Reinforcement Learning in MDPs, M. S. Talebi, O.-A. Maillard, Algorithmic Learning Theory (ALT), 2018.

Boundary Crossing Probabilities for General Exponential Families, O.-A. Maillard, Algorithmic Learning Theory (ALT), 2017. Extended version in **Mathematical Methods of Statistics**. [Solving a 30 year-old open question]

Spectral Learning from a Single Trajectory under Finite-State Policies, B. Balle, O.-A. Maillard in International conference on Machine Learning (ICML), 2017.

"How hard is my MDP?" Distribution-norm to the rescue, O.-A. Maillard, T.A. Mann and S. Mannor in Proceedings of the 27th conference on advances in Neural Information Processing Systems (NIPS), 2014. **Full oral presentation**

Concentration inequalities for sampling without replacement, R. Bardenet and O.-A. Maillard, in **Bernoulli**, 2014.

Kullback-Leibler upper confidence bounds for optimal sequential allocation, O. Cappé, A. Garivier, O.-A. Maillard, R. Munos and G. Stoltz, in **The Annals of Statistics**, 41(3):1516 -1541, 2013.

Linear Regression with Random Projections, O.-A. Maillard and R. Munos, in **Journal of Machine Learning Research** (JMLR), 13:2735 -2772, 2012.

Finite-time analysis of multi-armed bandits problems with Kullback-Leibler divergences, O.-A. Maillard, R. Munos, and G. Stoltz, in Proceedings of the 24th annual Conference On Learning Theory (COLT), 2011.

Invited speaker (selected list, see `http://odalricambrymmaillard.neowordpress.fr/information/events/`)

June 04, 2019, Amsterdam (Netherlands): P.Grünwald's group at Centrum voor Wiskunde en Informatica (CWI).
May 13-14, 2019, Besançon (France): Workshop on Empirical Processes and Applications to Statistics.
March 07, 2019, Paris (France): 3rd nonstationary day, at Institut Henri Poincaré (IHP).
November 03, 2018, Sapporo (Japan): 20th Ibis conference (**plenary talk**).
June 03, 2016, Paris (France): GdR Isis.
January 12, 2016, Lancaster (UK): the Bandits Workshop in Lancaster.
January 08, 2016, Orsay (France): journées Statistics/Learning at Paris-Saclay at IHES.
November 09, 2015, Toulouse (France): CIMI.
January, 30, 2015 Paris (France): Journées YSP at Institut Henri Poincaré (IHP).

Supervision (Postdoc:3. PhD: 3 advised, 9 co-advised. Master: 16 interns)

I have supervised the following smart people: Tuan Dam (Postdoc, 2022-2023, Chaire IA), Timothée Mathieu (Postdoc, 2021-2023, Inria), Mohammad Sadegh Talebi (Postdoc, 2018-2020, ANR), Hernán Carvajal (Engineer, 2021-2023, Inria).
I continue this list with the Ph.D. students I have advised since my habilitation (2019):
S. Vashishtha (100%, 2022-2025, Chaire IA fellow)   F. Fabre (33%, 2021-2024, U. Reunion & CIRAD)
F. Pesquerel (100%, 2020-2023, ENS fellow)   P. Saux (50%, 2020-2023, ENS fellow)
D. Baudry (50%, 2019-2022, Inria fellow)   R. Ouhamma (50%, 2019-2023, Ecole Polytechnique fellow)
H. Saber (100%, 2019-2022, Inria fellow)   E. Leurent (50%, 2017-2020, CIFRE Renault; 2 PhD awards)
Before my habilitation, I also co-supervised[1] S. Akhtar (2017, ANR) R. Alami (2016-2020, CIFRE Orange Labs) R. Allesiardo (2015-2017, CIFRE Orange Labs) N. Galichet (2016, Université Orsay).

Teaching (Master level)

I have been teaching **Statistical Reinforcement Learning** in several M.Sc over the last few years:
École Polytechnique, 2019-2023 (5y) Master 2 "Artificial Intelligence & Advanced Visual Computing (Ai-ViC)" (48h, ∼20 students) and 2020-2022 (3y) Executive Master Data-Science (3h, ∼50 students)
École Centrale Supélec, 2021/2022, Master 2 Mention IA (24h, ∼70 students) and **École Centrale de Lille**, 2017/2018, Master 2 "Données, Apprentissage, Décision (DAD)" (18h, ∼40 students)
I also taught at **Reinforcement Learning Summer School (RLSS)**, 01-12 July 2019, (5h, ∼300 students).

Reviewing

I have been reviewing for the following international conferences (55 PC) and journals (+50 reviews):
Algorithmic Learning Theory, Bernoulli Journal, Artificial Intelligence and Statistics, The Annals of Statistics, Conference On Learning Theory, European Conference on Machine Learning, European Workshop on Reinforcement Learning, International Conference on Machine Learning, Journal of Machine Learning Research, Machine Learning Journal, Neural Information Processing Systems, IEEE Transactions on Automatic Controls, IEEE Transactions on Information Theory, Theoretical Computer Science, I am **editor** of the Journal of Machine Learning Research. I occasionally reviewed for the ANR. I was part of the Inria CR hiring commitee in 2018, 2019, 2020, and Inrae jury in 2021. I regularly participate in Ph.D. juries.

Broadcasting

2020.10 - Participation to Fête de la Science (video intended to the public) at Inria.
2018 - PI of "ANR BADASS Lecture Series", hosting P. Grünwald, at Inria Lille – Nord europe.
2017 - PI of Workshop "Sequential Structured Statistical Learning" at Institut des Hautes Études Scientifiques (IHES).
2015 - Journée "Petits débrouillards" at LRI.
2014 - PI of NIPS Workshop "From Bad models to Good policies"

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[1]in French, doctoral school officially recognizes supervision only after habilitation.