

SHORT CURRICULUM VITÆ

Sylvain ARLOT
Orsay Mathematics Department
Bâtiment 425 – Faculté des Sciences d’Orsay
Paris-Sud University
F-91405 ORSAY Cedex France

Phone: +33 1 69 15 67 31
E-mail: sylvain.arlot@math.u-psud.fr
Webpage: <http://www.math.u-psud.fr/~arlot/>



Born March 2, 1983
French citizen

Administrative status

2015 – . . . **Professor** *University Paris-Sud*
2012–2015 **CNRS junior researcher (1st class)** *DI ENS, École Normale Supérieure, Paris*
2008–2012 **CNRS junior researcher (2nd class)** *DI ENS, École Normale Supérieure, Paris*
2005–2008 **PhD fellow** *Université Paris-Sud, Orsay*

Main publications

- (2016) Sylvain Arlot and Robin Genuer **Comments on: A random forest guided tour** *TEST*. June 2016, Volume 25, Issue 2, pp 228-238.
- (2016) Sylvain Arlot and Matthieu Lerasle **Choice of V for V -Fold Cross-Validation in Least-Squares Density Estimation** *Journal of Machine Learning Research* 17(208):1–50
- (2016) Rémi Lajugie, Piotr Bojanowski, Philippe Cuvillier, Sylvain Arlot and Francis Bach **A weakly-supervised discriminative model for audio-to-score alignment** *41st International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, March 2016, Shanghai, China.
- (2014) Damien Garreau, Rémi Lajugie, Sylvain Arlot and Francis Bach **Metric Learning for Temporal Sequence Alignment** *Advances in Neural Information Processing Systems (NIPS)* 27, 1817–1825.
- (2014) Rémi Lajugie, Sylvain Arlot and Francis Bach **Large-Margin Metric Learning for Constrained Partitioning Problems** *International Conference on Machine Learning, JMLR W&CP* 32 (1): 297–305.
- (2012) Matthieu Solnon, Sylvain Arlot and Francis Bach **Multi-task regression using minimal penalties** *Journal of Machine Learning Research* 13(Sep):2773–2812
- (2011) Sylvain Arlot and Peter L. Bartlett **Margin-adaptive model selection in statistical learning** *Bernoulli*, Vol. 17, No 2, 687-713.
- (2010) Sylvain Arlot and Alain Celisse **Segmentation of the mean of heteroscedastic data via cross-validation** *Statistics and Computing*, 2010 (1–20).
- (2010) Sylvain Arlot and Alain Celisse **A survey of cross-validation procedures for model selection** *Statistics Surveys*, 4, 40–79 (electronic).
- (2010) Sylvain Arlot, Gilles Blanchard and Étienne Roquain **Some non-asymptotic results on resampling in high dimension, I: confidence regions** *The Annals of Statistics*, Vol. 38, No. 1, 51-82.

11. (2010) Sylvain Arlot, Gilles Blanchard and Étienne Roquain **Some non-asymptotic results on resampling in high dimension, II: multiple tests** *The Annals of Statistics*, Vol. 38, No. 1, 83-99.
12. (2009) Sylvain Arlot **Model selection by resampling penalization** *Electronic Journal of Statistics*, 3, 557-624 (electronic).
13. (2009) Josselin Desmars, Sylvain Arlot, Jean-Eudes Arlot, Valery Lainey and Alain Vienne **Estimating the accuracy of satellite ephemerides using the bootstrap method** *Astronomy and Astrophysics*, 499, 321-330.
14. (2009) Sylvain Arlot and Pascal Massart **Data-driven calibration of penalties for least-squares regression** *Journal of Machine Learning Research*. 10(Feb):245-279.
15. (2009) Sylvain Arlot and Francis Bach **Data-driven calibration of linear estimators with minimal penalties** *Advances in Neural Information Processing Systems (NIPS)* 22, 46-54.
16. (2007) Sylvain Arlot, Gilles Blanchard and Étienne Roquain **Resampling-based confidence regions and multiple tests for a correlated random vector** *Proceedings of the Conference On Learning Theory (COLT 2007)*.

Books and book chapters

17. (2016) Sylvain Arlot **Fondamentaux de l'apprentissage statistique** in *Journées d'Études en Statistique (JES 2016): Apprentissage statistique et données massives*, Éd. Technip 122 pages. To appear.
18. (2016) Sylvain Arlot **Validation croisée** in *Journées d'Études en Statistique (JES 2016): Apprentissage statistique et données massives*, Éd. Technip 35 pages. To appear.

Teaching book

19. (2015) Sylvain Arlot, Aurélien Garivier and Gilles Stoltz **Exercices d'oral de mathématiques** *Collection Références sciences, Ellipses*. To appear.

Distinctions

- | | | |
|-----------|--|----------------------------|
| 2011 | Ph.D. dissertation award Marie-Jeanne Laurent-Duhamel | French Statistical Society |
| 2010-2011 | Peccot Lecture | Collège de France |

Member of scientific projects and networks

- | | |
|-----------|--|
| 2015- | Member of the Select Project INRIA Saclay |
| 2015 | Member of the ANR project TITAN (leaders: André Ferrari & Zaïd Harchaoui) |
| 2015 | Member of the project BEFAST (CNRS, PEPS Fascido) (leader: Alain Celisse, Université Lille 1) |
| 2013-2014 | Member of the ANR project GARGANTUA (leader: Zaïd Harchaoui, INRIA Grenoble) |
| 2012-2016 | Member of the ANR project CALIBRATION (leader: Vincent Rivoirard, Univ. Paris Dauphine) |
| 2011-2015 | Member of the Sierra Project INRIA Paris |
| 2009-2012 | Leader of the ANR project DETECT: "New statistical approaches for computer vision and bioinformatics"
Voir aussi http://www.di.ens.fr/~arlot/ANR-DETECT.htm . |
| 2008-2010 | Member of the Willow Project INRIA Paris |

2007–2013 **Member of the European network of excellence PASCAL** (Pattern Analysis, Statistical Modelling and Computational Learning) then PASCAL 2 from 2008
2005–2008 **Member of the Select Project INRIA Saclay**

Scientific visits

Mar. 2012 Università degli Studi di Siena **Duccio Papini**
Feb. 2011 Scuola Normale Superiore di Pisa **Stefano Marmi**
Dec. 2009 University of California, Berkeley **Peter L. Bartlett**
Nov. 2009 Scuola Normale Superiore di Pisa and Università degli Studi di Siena **Stefano Marmi and Duccio Papini**
Jan.–Apr. 2008 University of California, Berkeley **Peter L. Bartlett**

Referee

- **Journals:** Annales de l'Institut Henri Poincaré (2012), Annals of Statistics (2008×3, 2010×2, 2012, 2013, 2014), Bernoulli (2010, 2013), Computational Statistics and Data Analysis (2011), Electronic Journal of Statistics (2009), IEEE Transactions on Systems, Man and Cybernetics – Part B (2008), IEEE Transactions on Pattern Analysis and Machine Intelligence (2010), Journal of Econometrics (2014), Journal of Machine Learning Research (2007, 2008), Journal of the Royal Statistical Society – Series B (2010), Machine learning (2016), Mathematical Methods of Statistics (2015), Scandinavian Journal of Statistics (2010), Statistics and Computing (2009, 2010), TEST (2015)
- **Conferences:** AISTATS 2011, COLT 2008, 2013, ICML 2015
- **Books:** Société Mathématique de France (2013)
- **Projects:** Pascal Challenge (2007, 2012)

Collective responsibilities

2016– Coordinator of the math-CS program Labex Mathématique Hadamard
2016– Member of steering committee Center for Data Science Paris-Saclay
2012–2015 Elected member of the laboratory council DI/ENS

Member of Ph.D. committees

Sep. 2016 **Marie-Liesse Cauwet** Université Paris-Sud **Examiner**
June 2016 **Mokhtar Alaya** Université Pierre-et-Marie-Curie **President**
May 2016 **Gwenaëlle Mabon** Université Paris Descartes **Examiner**
Feb. 2016 **Jérémy Bensadon** Université Paris-Sud **President**
Nov. 2015 **Erwan Scornet** Université Pierre et Marie Curie **Examiner**
Nov. 2015 **Mélanie Albert** Université Nice Sophia-Antipolis **Examiner**
July 2015 **Maud Thomas** Université Paris Diderot **Examiner**
Apr. 2011 **Pierre Connault** Université Paris-Sud **Examiner**
June 2009 **Matthieu Lerasle** INSA Toulouse **Examiner**

Advisor

- **Ph.D. students:**

Guillaume Maillard (2016–...) *Aggregated cross-validation* (50%; co-advisor: Matthieu Lerasle)

Damien Garreau (2014–...) *Learning the kernel for change-point detection* (80%; co-advisor: Gérard Biau)

Rémi Lajugie (2012–2015) *Structured prediction for sequential data* (50%; co-advisor: Francis Bach) Defended on September 18, 2015. **Honorary mention for the Ph.D. thesis award AFRIF 2015**

Matthieu Solnon (2010–2013) *Multi-task statistical learning* (50%; co-advisor: Francis Bach) Defended on November 25, 2013

- **Master 2 students:**

Guillaume Maillard (2016) *Aggregated cross-validation* (50%; co-advisor: Matthieu Lerasle)

Damien Garreau (2013–2014) *Metric learning and dynamic time warping* (50%; co-advisor: Francis Bach)

Matteo Tanzi (2013) *Denoising and Parameter Estimation for Deterministic Dynamical Systems* (co-advised with Stefano Marmi)

Rémi Lajugie (2012) *Metric learning for change-point detection* (50%; co-advisor: Francis Bach)

Matthieu Solnon (2010) *Multi-task learning and minimal penalties* (50%; co-advisor: Francis Bach)

- **Master 1 students:**

Anisse Ismaili and Pierre Gaillard (2009) *The Lasso*

Teaching experience

- 2015–2017 **Apprentissage statistique et rééchantillonnage (M2)** *Université Paris-Sud* cours du M2 “Mathématiques de l’Aléatoire” [20h]
- 2016–2017 **Coordination du séminaire** *Université Paris-Sud* M2 “Mathématiques de l’Aléatoire” [10 exposés d’1h, par 10 orateurs différents]
- 2016–2017 **Préparation à l’agrégation de mathématiques, option probabilités-statistique** *Université Paris-Sud* [15h]
- 2015–2017 **Statistiques multivariées (M1)** *Université Paris-Sud* cours+TD, M1 **Bioinformatique-Biostatistiques (BIBS)** [24h]
- 2016–2017 **Probabilités et Statistiques (L2)** *Université Paris-Sud* cours magistral et coordination, L2, **Licence mention mathématiques** [21h]
- 2015–2017 **Probabilités et Statistiques (L2)** *Université Paris-Sud* TDs, L2, **Licence mention mathématiques** [40h]
- Oct. 2016 **Fondamentaux de l’apprentissage statistique, Validation croisée** *Journées d’Étude en Statistique 2016 (SFDS)* **Mini-cours niveau doctorat** [3h]
- 2009–2015 **Statistical learning** *Université Paris-Sud* **Master 2** [12h de cours + environ 6h d’exposés d’élèves]
- 2010–2013 **Mathematics board** *École Normale Supérieure (Paris)* **admission exam, section “humanities and economy”**
- July 2013 **Tutorial** *CEMRACS 2013* **Classification and statistical machine learning** [1h]
- Jan.–Feb. 2012 **Model selection via penalization, resampling and cross-validation, with application to change-point detection** *Cergy university* **tutorial for M2 and Ph.D. students** [6h]

- Feb. 2011 **Model selection and estimator selection for statistical learning** *Scuola Normale Superiore di Pisa* **tutorial for M2 and Ph.D. students** [10h]
- 2010–2012 **Mathematical lectures: classification** *École Normale Supérieure (Paris)* **2nd year (Master 1 level)** [9h]
- 2010–2012 **Statistical learning** *École Normale Supérieure (Paris)* **1st year (Master 1 level)** [10h]
- 2008–2009 **Supervised classification: algorithms and their data-driven calibration** *École Centrale Paris* **3rd year, Master 2 level** [12h+3h]
- 2005–2008 **Temporary assistant professor** *University Paris-Sud* **Calculus course** [64h]

Academics: Ph.D. thesis and habilitation

- 2014 **Habilitation in Mathematics** Université Paris Diderot **Title: Contributions to statistical learning theory: estimator selection and change-point detection.**
- 2004–2007 **Ph.D. in Mathematics** Université Paris-Sud **Advisor: Pascal Massart. Title: Resampling and Model selection.** Marie-Jeanne Laurent-Duhamel Ph.D. dissertation award 2011 from the French Statistical Society (SFDS)

Languages

- French (native)
English (fluent)