Paul Bastide

Postdoctoral researcher in Statistics

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Curent Position

2017 – present **Postdoctoral researcher**, *KU Leuven.*
Bayesian Phylogenetic Comparative Methods applied to virology. With **Philippe Lemey** (KU Leuven) and **Marc Suchard** (UCLA).
Keywords.
Phylogenetic Comparative Methods. Shift Detection. Model Selection. Phylogenetic Networks.

Awards and Fellowships

2018-2021 **FWO Fellowship**, *Research Foundation - Flanders.*
Project based personal post-doctoral fellowship.

2018 **SFdS PhD Thesis Award**, *French Statistical Society.*
Prix Marie-Jeanne Laurent-Duhamel, for a PhD in Applied Statistics, awarded every three years.

Fall 2015 **Fulbright Scholar**, *University of Wisconsin - Madison.*
To work with **Cécile Ané** at the Departments of Statistics and Botany, and in the **Sytsma Lab**.

Educational Background

2014 – 2017 **PhD Thesis**, *Université Paris Sud.*
Shifted stochastic processes evolving on trees: application to models of adaptive evolution on phylogenies. Supervised by **Stéphane Robin** (MIA, UMR 518 AgroParisTech/INRA) and **Mahendra Mariadassou** (MaIAGE, UR 1404 INRA).

2013 – 2014 **Master2 MathSV**, *Université Paris Sud - École Polytechnique - ENS Cachan.*
Master in Mathematics For Life Sciences, awarded with highest honors.

2010 – 2014 **Grande École**, *École Polytechnique.*
(One of France's leading schools of science and engineering.)
Majoring in Applied Mathematics.

Publications

2018 – **P. Bastide**, C. Solís-Lemus, R. Kriebel, K. W. Sparks, and C. Ané. Phylogenetic comparative methods on phylogenetic networks with reticulations. *Systematic Biology*, 67(5):800–820, 2018.

– **P. Bastide**, C. Ané, S. Robin, and M. Mariadassou. Inference of Adaptive Shifts for Multivariate Correlated Traits. *Systematic Biology*, 67(4):662–680, 2018.

– L. Aristide, **P. Bastide**, S. F. dos Reis, T. M. Pires dos Santos, R. T. Lopes, and S. I. Perez. Multiple factors behind early diversification of skull morphology in the continental radiation of New World monkeys. *Evolution*, 72(12):2697–2711, dec 2018.

2017 – C. Solís-Lemus, **P. Bastide**, and C. Ané. PhyloNetworks: A Package for Phylogenetic Networks. *Molecular Biology and Evolution*, 34(12):3292–3298, 2017.

– **P. Bastide**, M. Mariadassou, and S. Robin. Detection of adaptive shifts on phylogenies by using shifted stochastic processes on a tree. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 79(4):1067–1093, 2017.

2014 – **P. Bastide** and T. David. Discours de réception d'Édouard Estaunié à l'Académie française : définitions croisées de la persona d'un académicien scientifique. *Épistémocritique*, 14(Greffes), 2014.

Softwares

PhylogeneticEM (Main Author) An **R** package for automatic shift detection on phylogenies. Available on the CRAN and on GitHub.

PhyloNetworks (Contributor) A **julia** package for statistical inference, data manipulation and visualization of phylogenetic networks. Available on GitHub.

BEAST (Contributor) A **java** cross-platform program for Bayesian analysis of molecular sequences and continuous traits using MCMC.

Talks and Posters in Conferences

29/07/2019 **JSM 2019**, *Joint Statistical Meeting, Denver*, contributed speed talk.

05/06/2019 **JdS 2019**, *51èmes Journées de Statistique de la SFdS, Nancy*, contributed talk.

21/08/2018 **Evolution 2018**, *Joint Congress on Evolutionary Biology, Montpellier*, contributed talk.

30/05/2018 **JdS 2018**, *50ème Journées de Statistiques de la SFdS, Saclay*, **invited speaker** for the Prix Marie-Jeanne Laurent-Duhamel.

13/06/2017 **MCEB 2017**, *Mathematical and Computation Evolutionary Biology, Porquerolles*, poster.

30/05/2017 **JdS 2017**, *49èmes Journées de Statistique de la SFdS, Avignon*, contributed talk.

28/06/2016 **JOBIM 2016**, *Journées Ouvertes en Biologie, Informatique et Mathématiques, Lyon*, contributed talk.

19/04/2016 **JPS 2016**, *Jeunes Probabilistes et Statisticiens, École de Physique des Houches*, talk.

22/06/2015 **MCEB 2015**, *Porquerolles*, poster.

02/06/2015 **JdS 2015**, *47èmes Journées de Statistique de la SFdS, Lille*, contributed talk.

Seminars and Workshops

25/04/2019 **IMO Statistics seminar**, *Orsay*.

21/01/2019 **MaIAGE Statistics Seminar**, *Jouy-en-Josas*.

19/10/2018 **LBBE Statistics Seminar**, *Lyon*.

28/09/2018 **LaMME Statistics Seminar**, *Évry*.

27/09/2018 **LJK Probability & Statistics Seminar**, *Grenoble*.

15/02/2018 **Meeting of the group "Modélisation Mathématique et Biodiversité"**, *Institut de Mathématique d'Orsay*.

20/11/2017 **Joint Seminar: "Mathématiques, Évolution, Biologie" and Statistics**, *Institut de Mathématiques de Marseilles*.

08/11/2017 **Bioinformatic Seminar (BIG)**, *KU Leuven*.

23/02/2017 **Bioinformatics Team Meeting**, *INRA, Jouy-en-Josas*.

14/11/2016 **StatInfOmics Team Meeting**, *MaIAGE, Jouy-en-Josas*.

04/10/2016 **Journées des maths-info de l'INRA**, *Mallemort*.

27/06/2016 **AgroParisTech Statistics Seminar**, *Paris*.

23/06/2016 **Université Paris Sud Statistics Seminar (PhD Session)**, *Orsay*.

09/06/2016 **Université Paris Descartes PhD Seminar**, *Paris*.

18/05/2016 **EDMH PhD Seminar**, *Paris*.

11/04/2016 **SupAgro Statistics Seminar**, *Montpellier*.

10/02/2016 **Sauquet Lab Botany Seminar**, *Université Paris Sud - Orsay*.

19/11/2015 **Sytsma Lab Botany Seminar**, *University of Wisconsin - Madison*.

18/11/2015 **University of Wisconsin Statistics Seminar**, *Madison*.

22/07/2015 **Morlon Lab Evolution Seminar**, *IBENS, Paris*.

23/06/2015 **SSB Statistics Seminar**, *Jouy-en-Josas*.

16/02/2015 **MaAIGE Internal Seminar**, *Jouy-en-Josas*.

Teaching

2018	**Teaching Assistant**, *KU Leuven*, in English and Dutch.
	Applied Biostatistics. Master level, Biomedical sciences.
	Introduction to Biostatistics. Bachelor level, Biomedical sciences.
2014 – 2017	**Teaching Assistant**, *Université Paris Sud*, in French.
	Introduction to Mathematical Modeling. Bachelor level, Applied Mathematics (L3). [Springs 2015/16/17]
	Introduction to Statistics. Bachelor level, Biology (L2). [Fall 2016]
	Mathematics for Biology. Bachelor level, Biology (L1). [Fall 2016]
	Measure Theory and Probabilities. Bachelor level, Mathematics (L3). [Spring 2016]
	Introduction to Statistics. Bachelor level, Biology (L3). [Fall 2014]
2011 – 2012	**Tutor**, *GEPPM*.
	A national program to help underprivileged high school students to continue their studies after high school. One course a week.

Implication in the Research Community

Reviewer	Systematic Biology, NIPS, Evolutionary Bioinformatics, PeerJ, PlosOne, French ANR.
Learned Society	Member of the *Société Française de Statistique* (SFdS), the *Society of Systematic Biologists* (SSB) and the *American Statistical Association* (ASA).
Outreach	"Scoop" highlight on the network PCM paper for the Life Sciences Department of the Université Paris Saclay (`www.scoop.it/t/life-sci-news-upsaclay?q=bastide`)

Scientific Projects and Internships

Spring 2014	**Internship**, *UMR 518 AgroParisTech / INRA (Paris)*, Supervised by Stéphane Robin and Mahendra Mariadassou, *Shifted Phylogenetic Comparative Methods*.
2013 – 2014	**Project**, *UMR de Génétique Végétale du Moulon (Saclay)*, Supervised by Christine Dillmann and Sylvie Huet, *Analysis of the relations between the phenotype and the genotype on yeast organisms, combining genomic, proteomic and metabolic data*.
Spring 2013	**Internship**, *International Institute for Climate and Society (IRI) at Columbia University (New York)*, Supervised by Rémi Cousin and Daniel Ruiz Carrascal, *Construction and Study of a Multi-Model Framework For Short Term Predictions of a Malaria Epidemic in the Region of Kericho, Kenya*.
Fall 2012	**Project**, *CMAP (École Polytechnique)*, Supervised by Stéphane Gaubert, *How to control the Chikungunya epidemic in La Réunion*.
2011 – 2012	**Project**, *CMAP (École Polytechnique)*, Supervised by Amandine Veber, *Modeling the development of terrorists groups*.

Other Work Experience

Summer 2012	**Internship**, *Intech-NSK*, Novosibirsk (Russia).
2010 – 2011	**Internship**, *l'Enfant @ l'Hôpital*, French association.

Skills

French	First language	Dutch	Actively learning
English	Spoken and written	Russian, Spanish	Notions
Desktop tools	MS Office, LaTex, Git	Programing	R, Rcpp, Julia, Java, Matlab