

# Amandine VÉBER

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*Date of birth:* 22/01/1984.

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## PROFESSIONAL SITUATION

- 2010 – **CNRS junior researcher and part-time lecturer** at CMAP, École Polytechnique.  
*Research topics:* Branching processes in random media, population genetics models, coalescent processes, limit theorems.
- 2008 – 2010 **Member of the Probability and Statistics groups** of the E.n.s. and of the University Paris-Sud 11.
- 2008 – 2010 **Teaching assistant** at the Department of Mathematics of the E.n.s.

## ACADEMIC TRAINING

- 2006 – 2009 **Ph.D. in Mathematics under the supervision of Jean-François Le Gall** (Univ. Paris 11) and **Alison Etheridge** (Univ. of Oxford). Defended on December 8th 2009 at the University Paris 11, before a jury composed of Alison Etheridge, Jean-François Le Gall, Sylvie Méléard, Alain Rouault and Anton Wakolbinger. Title:  
*Limit theorems for some spatial branching and coalescent processes.*
- 2006 – 2007 Third year of Magistère MMFAI at the E.n.s. Magistère dissertation entitled *Superprocesses and coalescents.*
- 2005 – 2006 - **M2 in Probability and Statistics** at the University Paris 11. M2 dissertation under the supervision of Alison Etheridge and Jay Taylor (Univ. of Oxford), entitled *Structured population models as measure-valued random evolutions.*  
- Second year of Magistère MMFAI at the E.n.s.
- 2004 – 2005 - **L3 and M1 in Mathematics** at the E.n.s. M1 dissertation under the supervision of François Taddei (INSERM), entitled *Statistical modelization of cell lines.*  
- First year of Magistère MMFAI at the E.n.s.
- 2004 **Admitted to the École normale supérieure.**

## TRAINING ABROAD

- 2005 – 2008 **Three research visits** (from 3 to 5 month-long, each) at the Department of Statistics of the University of Oxford, under the supervision of Alison Etheridge.

## TRAINING IN BIOLOGY

- 2005-2006 **M2 Interdisciplinary Approaches to Life Sciences** (not validated).
- Sept. 2005 One week of **introductory course in biology for non-specialists**, Luminy, France.
- Sept. 2004 **Introductory course in biology**, L3 course at the E.n.s.

## PUBLICATIONS

- **Quenched convergence of a sequence of superprocesses in  $\mathbb{R}^d$  among Poissonian obstacles.** A. VÉBER (2009). *Stochastic Process. Appl.*, 119 : 2598–2624.
- **Coalescent processes in subdivided populations subject to recurrent mass extinctions.** J.E. TAYLOR and A. VÉBER (2009). *Electron. J. Probab.*, 14 : 242–288.
- **A new model for evolution in a spatial continuum.** N.H. BARTON, A.M. ETHERIDGE and A. VÉBER (2010). *Electron. J. Probab.*, 15 : 162–216.
- **Théorèmes limites pour des processus de branchement et de coalescence spatiaux.** (Thesis summary) A. VÉBER (2010). *MATAPLI*, 92 : 53–60.
- **Escape probabilities for branching Brownian motion among mild obstacles.** J.-F. LE GALL and A. VÉBER (2010). *Journal of Theor. Probab.*, Online first.
- **Monte-Carlo algorithms for the equivalence of quadratic maps.** C. BOUILLAGUET, P.-A. FOUQUE and A. VÉBER (2011). *Unpublished manuscript*.
- **The spatial  $\Lambda$ -Fleming-Viot process on a large torus : genealogies in the presence of recombination.** A.M. ETHERIDGE and A. VÉBER (2011). *Submitted*.
- **Large scale behaviour of the spatial  $\Lambda$ -Fleming-Viot process.** N. BERESTYCKI, A.M. ETHERIDGE and A. VÉBER (2011). To appear in *Ann. Inst. H. Poincaré Probab. Statist.*

## RECENT COMMUNICATIONS IN SEMINARS AND WORKGROUPS

- Dec. 2011     **Large scale behaviour of the spatial  $\Lambda$ -Fleming-Viot process.** Prob-L@b Seminars, University of Bath.
- Nov. 2011     **Large scale behaviour of the spatial  $\Lambda$ -Fleming-Viot process.** Seminar on stochastic processes, ETH Zürich.
- June 2011     **Large scale behaviour of the spatial  $\Lambda$ -Fleming-Viot process.** Midlands Probability Seminars, University of Warwick.
- Mar. 2011     **Long-time behaviour of the spatial  $\Lambda$ -Fleming-Viot process.** Workgroup *Modelization*, University of Paris 7.
- Jan. 2011     **The spatial  $\Lambda$ -Fleming-Viot process : genealogies in the presence of recombination.** Rhein-Main-Kolloquium Stochastik, Francfort.
- Jan. 2011     **The spatial  $\Lambda$ -Fleming-Viot process and associated genealogies.** Seminar of the CMAP, École Polytechnique.
- Nov. 2010     **The spatial  $\Lambda$ -Fleming-Viot process and associated genealogies.** Seminar of the group RAP, INRIA Rocquencourt.
- Nov. 2010     **Long-time behaviour of the spatial  $\Lambda$ -Fleming-Viot process.** Probability workgroup of the University of Paris 5.
- Nov. 2010     **Branching Brownian motion among random obstacles.** Probability seminar of the University of Toulouse.
- Oct. 2010     **Long-time behaviour of the spatial  $\Lambda$ -Fleming-Viot process.** Workgroup of the research project MMB, École Polytechnique.
- Mar. 2010     **A new model for evolution in a continuum : the spatial  $\Lambda$ -Fleming-Viot process.** Workgroup *Stochastic models for the evolution of the living*, University of Aix-Marseille 1.
- Feb. 2010     **The spatial  $\Lambda$ -Fleming-Viot process : genealogies in the presence of recombination.** Seminar of the group TOSCA, INRIA Sophia Antipolis-Méditerranée.
- Jan. 2010     **Branching Brownian motion among random obstacles.** Workgroup *Stochastic processes and random matrices*, University of Paris 6.

## RECENT INVITATIONS TO CONFERENCES AND SUMMER SCHOOLS

- Oct. 2011 *Stochastic processes in cell and population biology*, Mathematical Biosciences Institute, Columbus (Ohio). Presentation : **Large scale behaviour of the spatial  $\Lambda$ -Fleming-Viot process.**
- July 2011 *Applied Probability Society Conference*, Stockholm. Presentation : **Of the usefulness of genealogical trees.**
- Apr. 2011 *UK Easter probability meeting: Random structures and dynamics*, Mathematical Institute, Oxford. Presentation : **Branching Brownian motion among random obstacles.**
- Mar. 2011 *Young European Probabilists*, EURANDOM, Eindhoven. Four hour course entitled **Temporal and spatial scales in geographically structured population models.**
- Mar. 2011 *Probabilistic combinatorics*, Bellairs Institute, Barbados. No presentation.
- Sept. 2010 *Mind the Gap. Joining Theoretical and Empirical Population Genetics*, Max Planck Institute for Evolutionary Biology, Plön, Germany. Presentation : **Long-term behaviour of the spatial Lambda-Fleming-Viot process.**
- Sept. 2010 *Branching structures*, University of Bath. Presentation : **Long-term behaviour of the spatial Lambda-Fleming-Viot process.**
- Sept. 2010 *Stochastic processes and applications*, Osaka, Japan. Presentation : **Spatial  $\Lambda$ -Fleming-Viot process: genealogies in the presence of recombination.**
- Aug. 2010 *Journées MAS*, University of Bordeaux. Presentation : **Homogenisation phenomena in certain population models.**
- Feb. 2010 International symposium on *Stochastic models in reliability engineering, life sciences and operations management*, Israël. Presentation : **Spatial  $\Lambda$ -Fleming-Viot process: genealogies in the presence of recombination.**
- July 2009 Thirty-ninth Saint-Flour probability summer school. Presentation : **Branching Brownian motion among random obstacles.**
- May 2009 *Probabilistic models for the evolution of the living*, CIRM, Luminy (France). No presentation.
- Apr. 2009 *Probabilistic combinatorics*, Bellairs Institute, Barbados. No presentation.
- Mar. 2009 Sixth conference *Young European probabilists*, Eurandom, Eindhoven. Presentation : **Spatial  $\Lambda$ -Fleming-Viot process and associated genealogies.**
- Jan. 2009 *Random trees*, Oberwolfach. No presentation.
- Apr. 2008 Eighth colloquium *Young probabilists and statisticians*, Aussois (France). Presentation : **Super-Brownian motion among Poissonian obstacles.**
- Sept. 2007 *Coagulation and fragmentation models*, Oberwolfach. No presentation.

## DISTINCTIONS

- Laureate of the Ph.D. thesis award *Jacques Neveu 2009*.

## SCIENTIFIC ACTIVITIES

- Sept. 2011 Co-organization of the *Second Paris-Bath meeting on branching structures* at IHP, Paris.
- 2011-14 Member of the *IMS Committee on New Researchers*. Co-organization of the *14th Meeting of New Researchers in Statistics and Probability*, July 2012 in San Diego.
- Since 2010 Co-organization of the workgroup on Probability theory at the CMAP.
- Since 2009 Member of the A.N.R. project MANEGE (*Random models in Ecology, Genetics and Evolution*) and of the research project *Mathematical Modeling and Biodiversity* (Véolia Environnement, Muséum National d'Histoire Naturelle and École Polytechnique).
- 2008 – 2010 Organization of a Probability seminar at the E.n.s.

## TEACHING AND ADMINISTRATION

### Teaching :

2010 – 2011

- **Tutorials for the course “An introduction to dynamical systems and Markov chains ; applications to ecology”**, 3rd year students at École Polytechnique (in 2010 only).
- **Tutorials for the course “Stochastic models in ecology and evolution”**, 3rd year students at École Polytechnique.
- **Tutorials for the course “Stochastics”**, 1st year students at École Polytechnique.
- **Lectures and supervision of student presentations on “Some stochastic models in population genetics”**, 2nd year students at École normale supérieure (in 2011 only).
- **Co-organization of a reading group “Mathematics and Biology”**, 1st year students at É.n.s.
- **Cosupervision of *Collective science projects***, 2nd year students at École Polytechnique.
- **Supervision of projects of *In depth-teaching***, 3rd year students at École Polytechnique.
- **Supervision of an M1 (first year of Master’s degree) project entitled “Some properties of Brownian motion”**, 2nd year student at École Polytechnique (in 2011 only).

2008 – 2010

- **Course on Probability and Statistics** for the E.n.s. students in Economics (level L3).
- **Course on mathematical modeling for biological problems** for the E.n.s. students in Mathematics (level L3, in 2009 only).
- **Supervision of an M1 project** intitled *Genealogies of large populations*, at É.n.s. (in 2010 only).
- **Organization of a week of mathematical activities** for high-school students of the *Science Académie*.
- **Co-responsible of the student exchange** between the D.M.A. and the universities of Budapest.

2005 – 2008

- **Member of the program *Science Académie***, which proposes to high-school students to discover research through internships in a laboratory and scientific events (volunteer).
- **Supervision of two TIPEs** (L2 projects) on population models (volunteer).

### Administration :

- 2008–2010 : **Représentative of the graduate students** at the D.M.A. laboratory council.

## MISCELLANEOUS

- **Reviewer** for *Probability Theory and Related Fields*, *Annals of Applied Probability*, *Theoretical Population Biology*, *Bulletin of Mathematical Biology* and *Mathematical Reviews*.
- **Languages** : English written and spoken fluently, German studied for 10 years, to be brushed up.
- **Good knowledge of Latex**.