Pierre-Emmanuel Jabin,   born on March 24th 1975
Laboratoire J.-A. Dieudonné, University of Nice-Sophia Antipolis
Parc Valrose, 06108 Nice Cedex
e-mail : jabin@unice.fr

Education	2003 :	Habilitation thesis: Kinetic formulations and models, derivation, regularity, limits. Université Paris VI.
	1999-2000 :	PhD in mathematics: Transport equations modeling particles interacting in a fluid and asymptotic behaviour. Advisor: B. Perthame. Université Paris VI.
	1995-1999 :	Scholarship at Ecole Normale Supérieure in Paris.
	1996-1997 :	"DEA" at Université Paris VI, and "Agrégation" of Mathematics.
	1995-1996 :	Master degree in Mathematics and Physics.

Positions	2004-... :	Professor at the university of Nice.
	2000-2004 :	Agrégé Préparateur (asssistant professor) at ENS, Paris.
	1999-2000 :	PhD grant at Université Paris VI.

Research Interests		**Partial Differential Equations :**
		Mathematics applied to biology, immunology,ecology
		Interacting particles, aerosols,
		Differential equations with singular force fields,
		Homogenization of transport equations,
		Coagulation-fragmentation process, Becker-Döring eq.,
		Averaging lemmas, Line-energy Ginzburg-Landau.

Service   PhD student: D. Broizat (with F. Berthelin), L. Derbel (defended Feb. 2006).
Member of the hiring committee of the mathematics department at the university of Nice.
Co-responsible (with J. BLum) of the PDE and Numerical Analysis team in Nice.
Responsible for the third year studies' program in mathematics at Nice.
Responsible of the internship program for the Master Imea, 2nd year.
Responsible for the colloquium at the mathematics department.
Member of the networks Chant and Grip.

Publications

1. P.E. Jabin, J. Soler, A coupled Boltzmann & Navier–Stokes fragmentation model induced by a fluid-particle-spring interaction, to appear *Math. Models Methods Appl. Sci.*

2. I. Brazzoli, E. De Angelis, P.E. Jabin, A Mathematical Model of Immune Competition Related to Cancer Dynamics, to appear *M2AN Math. Model. Numer. Anal.*

3. P.E. Jabin, Averaging Lemmas and Dispersion Estimates for kinetic equations, to appear *Riv. Mat. Univ. Parma.*

4. P.E. Jabin, A. Tzavaras, Kinetic decomposition for periodic homogenization problems, to appear *Siam J. Math. Anal.*.

5. P.E. Jabin, V. Lemesle, D. Aurelle, A continuous size-structured red coral growth model, to appear *Math. Models Methods Appl. Sci.*

6. A. Habbal, P.E. Jabin, Two Short Presentations related to Cancer Modeling, *ARIMA Rev. Afr. Rech. Inform. Math. Appl.* **10** (2008-2009).

7. L. Desvillettes, P.E. Jabin, S. Mischler, G. Raoul, On selection dynamics for continuous structured populations, *Commun. Math. Sci.* **6**, n.3, 729-747 (2008).

8. J. Barré, P.E. Jabin, Free transport limit for N-particles dynamics with singular and short range potential, *J. Stat. Phys.* **131** (2008), no. 6, 1085–1101.

9. L. Derbel, P.E. Jabin, The set of concentration for some hyperbolic models of chemotaxis, *J. Hyperbolic Differ. Equ.* **4** (2007), no. 2, 331–349.

10. M. Hauray, P.E. Jabin, N-particles approximation of the Vlasov-Poisson equation with singular potentials, *Arch. Ration. Mech. Anal.*, **183** (2007), no. 3, 489–524.

11. P.E. Jabin, J. Soler, A Kinetic Description of Particle Fragmentations, *Math. Methods Appl. Sci.*, **16**, 933–948 (2006).

12. C. Baranger, L. Boudin, P.E. Jabin, S. Mancini, A modeling of biospray for the upper airways, CEMRACS 2004–mathematics and applications to biology and medicine, 41–47 (electronic), ESAIM Proc., 14, EDP Sci., 2005.

13. E. De Angelis, Mathematical Models of Therapeutical Actions Related to Tumour and Immune System Competition, *Math. Methods Appl. Sci.*, **28**, no. 17, 2061–2083 (2005).

14. O. Diekmann, P.E. Jabin, S. Mischler, B. Perthame, The dynamics of adaptation : an illuminating example and a Hamilton-Jacobi approach, *Th. Pop. Biol.*, **67**, 257–271 (2005).

15. C. Klingenber, P.E. Jabin, Existence of solutions to an inhomogeneous, kinetic model of droplet coalescence, *Nonlinear partial differential equations and related analysis*, 181–192, Contemp. Math., 371, *Amer. Math. Soc.*, Providence, RI, 2005.

16. P.E. Jabin, L. Vega, A Real Space Method for Averaging Lemmas, *J. de Math. Pures et Appl.*, **83**, 1309–1351 (2004).

17. T. Goudon, P.E. Jabin, A. Vasseur, Hydrodynamic limits for Vlasov-Stokes equations: Part II: Fine Particles Regime, *Indiana Univ. Math. J.*, **53**, 1517–1536 (2004).

18. T. Goudon, P.E. Jabin, A. Vasseur, Hydrodynamic limits for Vlasov-Stokes equations: Part I: Light Particles Regime, *Indiana Univ. Math. J.*, **53**, 1495–1513 (2004).

19. P.E. Jabin, L. Vega, Lemmes de moyenne et Transformée aux rayons X, *C.R. Acad. Sci. Paris Sér. I Math.*, **337**, 505–510 (2003).

20. H. Frid, P.E. Jabin, B. Perthame, Global Stability of Steady Solutions for a Model in Virus Dynamics, *Math. Model. Numer. Anal.*, **37**, 709–723 (2003).

21. P.E. Jabin, B. Niethammer, On the rate of convergence to equilibrium in the Becker-Döring equations, *J. Differential Equations*, **191**, 518–543 (2003).

22. P.E. Jabin, B. Perthame, Kinetic methods for Line-energy Ginzburg-Landau models, *Séminaire sur les Équations aux Dérivées Partielles, 2001–2002*, Exposé XIII, *École Polytech., Palaiseau,* 2002.

23. E. De Angelis, P.E. Jabin, Qualitative Analysis of a Mean Field Model of Tumor-Immune System Competition, *Math. Models Methods Appl. Sci.*, **13**, 187–206 (2003).

24. P.E. Jabin, B. Perthame, Regularity in kinetic formulations via averaging lemmas, *ESAIM Control Optim. Calc. Var.*, **8**, 761–774 (2002).

25. P.E. Jabin, F. Otto, B. Perthame, Line-energy Ginzburg-Landau models: zero-energy states, *Ann. Sc. Norm. Sup. Pisa*, **5**, 187–202 (2002).

26. P.E. Jabin, Various levels of models for aerosols, *Math. Models Methods Appl. Sci.*, **12**, 903–919 (2002).

27. P.E. Jabin, B. Perthame, Compactness in Ginzburg-Landau energy by kinetic averaging, *Comm. Pure Appl. Math.*, **54**, 1096–1109 (2001).

28. P.E. Jabin, B. Perthame, Compacité par lemmes de moyenne cinétiques pour des énergies de Ginzburg-Landau, *C.R. Acad. Sci. Paris Sér. I Math.*, **331**, 441–445 (2000).

29. P.E. Jabin, F. Otto, Identification of the dilute regime in particle sedimentation, *Comm. Math. Phys.*, **250**, 415–432 (2004).

30. P.E. Jabin, The Vlasov-Poisson system with infinite mass and energy, *J. Statist. Phys.*, **103**, 1107–1123 (2001).

31. I. Gasser, P.E. Jabin, B. Perthame, Regularity and propagation of moments in some nonlinear Vlasov systems, *Proc. Roy. Soc. Edinburgh Sect. A*, **130**, 1259–1273 (2000).

32. P.E. Jabin, Macroscopic limit of Vlasov type equations with friction, *Ann. Inst. H. Poincaré Anal. Non Linéaire*, **17**, 651–672 (2000).

33. P.E. Jabin, B. Perthame, Notes on mathematical problems on the dynamics of dispersed particles interacting through a fluid, *Modelling in applied sciences, a kinetic theory approach*, 111–147, Model. Simul. Sci. Eng. Technol., Birkhauser Boston, 2000.

34. P.E. Jabin, Large time concentrations for solutions to kinetic equations with energy dissipation, *Comm. Partial Differential Equations*, **25**, 541–557 (2000).

Submitted articles or preprints

1. N. Champagnat, P.E. Jabin, Well posedness in any dimension for Hamiltonian flows with non *BV* force terms, submitted *Comm. Partial Differential Equations*.

2. P.E. Jabin, Differential Equations with singular fields, submitted *J. de Math. Pures et Appl.*

Works in preparation

1. J. Barré et M. Hauray, P.E. Jabin, Quantitative stability estimates for systems of many interacting particles.

2. P.E. Jabin, G. Raoul, Long time asymptotics for selection dynamics.

3. P.E. Jabin, Stationary phase arguments and other regularizing effects.

4. N. Champagnat, P.E. Jabin, Selection dynamics with time scale separation.

Invited lectures	2009	Journées EDP-Probas, IHP Paris.
	2008	Summer school Mathematical Models in Life and Social Sciences, L'Aquila, Italy. Sixth meeting on Hyperbolic Conservation Laws. Summer school "Methods and Models of Kinetic Theory", Porto Ercole, Italy. Conference "PDE2008 - Topics in PDE's and applications", Grenada, Spain.
	2007	Workshop "Numerical methods and kinetic equations", Toulouse France.
	2006	Summer school on Multiscale methods, Cargese France.
	2005	Conference "Around HYperbolic and Kinetic Equations 3", Roma Italia. Conference TamTam 2005, Tunis Tunisia.
	2004	Plenary lecture for the "6th International Workshop on Mathematical Aspects of Fluid and Plasma Dynamics", Kyoto Japan. Tenth International Conference on Hyperbolic Problems Theory, Numerics, Applications, Osaka Japon. HYKE conference on Complex Flows, Barcelone Espagne.
Organized conferences	2009	Cours Poupaud : B. Maury, Nice. Session "Etats de la recherche de la SMF" for Mathematics applied to biology, IHP Paris.
	2008	Modélisation bioinformatique en biologie et médecine Applications en Pharmaco-cinétique et Pharmaco-dynamique, Nice.
	2008	Joint meeting INRIA Sophia-Lab. Dieudonné, Nice and Sophia-Antipolis.
	2007	Cours Poupaud : J. Garnier, Nice.
	2006	Session "Hyperbolic and Transport Problems" in the conf. "Mathematics and its applications" SIMAI-SMAI-SMF-UMI, Turin, Italie. Cours Poupaud : C. DeLellis, Nice.