

- Curriculum vitae -

Tony LELIEVRE

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94170 Le Perreux sur Marne,
France.

Personal data : Born November 15, 1976, Mayenne (France). French citizenship.
PaCS, two children.

POSITIONS

- 2005-present** **Researcher at CERMICS (Ecole des Ponts ParisTech).**
Civil engineer-in-chief,
Member of the MicMac team-project, INRIA,
Professor at the Ecole des Ponts ParisTech (from 2009),
In charge of the molecular and multiscale modelling group (from 2009).
- 2004-2005** **Post-doc at the University of Montreal** (Centre de Recherches
Mathématiques) during the thematic year on *the mathematics of
stochastic and multiscale modeling*.
- 2001-2004** **PhD** in applied mathematics at the CERMICS laboratory (Ecole
des Ponts ParisTech).

EDUCATION

- 2009** **Habilitation thesis in applied mathematics** at the University
Paris Dauphine, defended 3rd June 2009.
Title : Mathematical and numerical analysis of some models for materials,
from the microscopic scale to the macroscopic scale.
- 2001-2004** **PhD in applied mathematics** at the CERMICS laboratory (Ecole
des Ponts ParisTech), defended 21st June 2004.
Title : Multiscale models for viscoelastic fluids.
Supervisors : Benjamin Jourdain and Claude Le Bris.
- 1999 - 2002** Student at the **Ecole des Ponts**.
First year : Graduate studies in numerical analysis and scientific computing
at the DEA d'analyse numérique (Paris VI university).
Second year : **One year training period in industry** (Pechiney)
Field of research : Modelling of aluminium electrolysis cells.
Supervisors : Jean-Frédéric Gerbeau and Claude Le Bris.
Third year : Graduate studies in probability
at the DEA de Probabilités (university Paris VI).
- 1996 - 1999** Student at the **Ecole Polytechnique** (Paris).

SCIENTIFIC AWARDS

- iXCore Foundation Prize, 2011.
- Alcan Prize of the French Academy of Science, 2010.
- GAMNI best PhD prize, 2004.
- ParisTech best PhD prize, 2004.
- Ecole des Ponts best PhD prize, 2004.
- Prix CS 2002 of the company Communications and Systemes (team prize with Jean-Frédéric Gerbeau and Claude Le Bris) for *the numerical simulation of aluminium electrolysis cells*.

ORGANIZATION OF RESEARCH

- Co-organizer of the program *Numerical methods in molecular simulation* in the framework of the HIM junior program on Computational Mathematics Hausdorff Center for Mathematics, Bonn, April-May 2008, (with F. Legoll, M. Rousset and G. Stoltz).
- Co-organizer of a workshop on numerical methods in rheology, Ecole des Ponts, January 2009 (with R. Kupferman, C. Le Bris and P. Zhang).
- Co-organizer of a workshop on *Hybrid simulations of dynamical systems and applications to molecular dynamics*, Institut Henri Poincaré, September 2010, (with E. Faou, F. Legoll and G. Stoltz).
- Co-organizer of a workshop on *Metastability and stochastic processes*, Ecole des Ponts, September 2011, (with A. Guillin).
- Member of the Conseil d'Administration of the SMAI (French society for industrial and applied maths), member of the MAS group (stochastic modelling and statistics).
- Participation to selection committees (for assistant professor positions) : university of Lille and university of Paris 7, May 2009 ; university of Paris 7, May 2010 ; university of Nancy and university of Paris 7, May 2011.
- PhD committee : David Pommier (invited, Paris 6, 2008), Leonardo Figueroa (reviewer, Oxford, 2011).
- PI of the ANR research-project MEGAS : *Geometric methods and sampling : applications to molecular simulation*, 2009-2012.
- Member of the ANR research-project BIGMC, (PI : G. Fort, Telecom ParisTech).
- Co-editor in chief of *ESAIM : Proceedings*, with Djalil Chafai, Pauline Lafitte and Clément Mouhot.

BOOKS

- *Mathematical methods for the Magnetohydrodynamics of liquid metals*, Numerical Mathematics and Scientific Computation, Oxford University Press, 2006. (with J-F. Gerbeau and C. Le Bris).
- *Free energy computations : A mathematical perspective*, Imperial College Press, 2010. (with M. Rousset and G. Stoltz).

ARTICLES IN JOURNALS

- *Numerical analysis of micro-macro simulations of polymeric fluid flows : a simple case*, Mathematical Models and Methods in Applied Sciences, 12(9), p. 1205-1243, 2002. (with B. Jourdain and C. Le Bris).
- *Simulations of MHD flows with moving interfaces*, Journal of Computational Physics, 184, p. 163-191, 2003. (with J-F. Gerbeau and C. Le Bris).
- *Modelling and simulation of the industrial production of aluminium : the nonlinear approach*, Computers and Fluids, 33, p. 801-814, 2004. (with J-F. Gerbeau and C. Le Bris).
- *Optimal error estimate for the CONNFESSIT approach in a simple case*, Computers and Fluids, 33, p. 815-820, 2004.
- *Existence of solution for a micro-macro model of polymeric fluid : the FENE model*, Journal of Functional Analysis, 209, p. 162-193, 2004. (with B. Jourdain and C. Le Bris).
- *On a variance reduction technique for the micro-macro simulations of polymeric fluids*, Journal of Non-Newtonian Fluid Mechanics, 122, p. 91-106, 2004. (with B. Jourdain and C. Le Bris).
- *Efficient pricing of Asian options by the PDE approach*, Journal of Computational Finance, 8(2), p. 55-64, 2005. (with F. Dubois).
- *Analysis and simulation of a coupled hyperbolic/parabolic model problem*, Journal of Numerical Mathematics, 13(2), p. 81-156, 2005. (with J.P. Croisille, A. Ern and J. Proft).
- *An elementary argument regarding the long-time behaviour of the solution to a stochastic differential equation*, Annals of Craiova University, Mathematics and Computer Science series, 32, p. 39-47, 2005. (with B. Jourdain and C. Le Bris).
- *Quantum Monte Carlo simulations of fermions. A mathematical analysis of the fixed-node approximation*, Mathematical Models and Methods in Applied Sciences, 16(9), 1403-1440, (2006). (with E. Cancès and B. Jourdain).
- *Long-time asymptotics of a multiscale model for polymeric fluid flows*, Archive for Rational Mechanics and Analysis, 181(1), p. 97-148, (2006). (with B. Jourdain, C. Le Bris and F. Otto).
- *Projection of diffusions on submanifolds : Application to mean force computation*, Communications on Pure and Applied Mathematics, 61(3), p. 371-408, (2008). (with G. Ciccotti and E. Vanden-Eijnden).
- *Computation of free energy differences through nonequilibrium stochastic dynamics : the reaction coordinate case*, Journal of Computational Physics, 222(2), p. 624-643, (2007). (with M. Rousset and G. Stoltz).
- *An efficient sampling algorithm for Variational Monte Carlo*, J. Chem. Phys., 125, p. 114105, (2006). (with M. Caffarel, E. Cancès, A. Scemama and G. Stoltz).
- *Diffusion Monte Carlo method : numerical analysis in a simple case*, Mathematical Modelling and Numerical Analysis, 41(2), p. 189–213, (2007). (with M. El Makrini and B. Jourdain).
- *Computation of free energy profiles with parallel adaptive dynamics*, J. Chem. Phys., 126, p. 134111, (2007). (with M. Rousset and G. Stoltz).
- *Adaptive models for polymeric fluid flow simulation*, C. R. Acad. Sci. Paris, Ser. I, 344(7), p. 473–476, (2007). (with A. Ern).
- *New entropy estimates for the Oldroyd-B model, and related models*, Commun. Math. Sci., 5(4), p. 909–916, (2007). (with D. Hu).
- *Analysis of some discretization schemes for constrained Stochastic Differential Equations*, C. R. Acad. Sci. Paris, Ser. I, 346(7-8), p. 471-476, (2008). (with C. Le Bris and

- E. Vanden-Eijnden).
- *Long-time convergence of an Adaptive Biasing Force method*, Nonlinearity, 21, p. 1155-1181, (2008). (with M. Rousset and G. Stoltz).
 - *Conservative stochastic differential equations : Mathematical and numerical analysis*, Mathematics of Computation, Mathematics of Computation, 78, p. 2047-2074 (2009). (with E. Faou).
 - *A general two-scale criteria for logarithmic Sobolev inequalities*, Journal of Functional Analysis, 256(7), p.2211-2221, (2008).
 - *Generalized Navier Boundary Condition and Geometric Conservation Law for surface tension*, Computer Methods in Applied Mechanics and Engineering, 198(5-8), 644-656, (2009). (with J.-F. Gerbeau).
 - *Free-energy-dissipative schemes for the Oldroyd-B model*, Mathematical Modelling and Numerical Analysis, 43, 523-561 (2009). (with S. Boyaval and C. Mangoubi).
 - *Results and questions on a nonlinear approximation approach for solving high-dimensional partial differential equations*, Constructive Approximation, 30(3), 621-651 (2009). (with C. Le Bris and Y. Maday).
 - *A variance reduction method for parametrized stochastic differential equations using the reduced basis paradigm*, Communications in Mathematical Sciences, 8(3), 735-762, (2010). (with S. Boyaval).
 - *Existence, uniqueness and convergence of a particle approximation for the Adaptive Biasing Force process*, Mathematical Modelling and Numerical Analysis, 44, 831-865, (2010). (with B. Jourdain and R. Roux).
 - *Potential of mean force calculations : a multiple-walker adaptive biasing force approach*, Journal of Chemical Theory and Computation, 6(4), 1008-1017, (2010). (with C. Chipot and K. Minoukadeh).
 - *Reduced basis techniques for stochastic problems*, Archives of Computational Methods in Engineering, 17(4), 435-454, (2010). (with S. Boyaval, C. Le Bris, Y. Maday, N.C. Nguyen and A.T. Patera).
 - *Free energy calculations : An efficient adaptive biasing potential method*, Journal of Physical Chemistry B, 114, 5823-5830, (2010). (with B. Dickson, F. Legoll, G. Stoltz and P. Fleurat-Lessard).
 - *Beyond multiscale and multiphysics : Multimaths for model coupling*, Networks and Heterogeneous Media, 5(3), 423-460, (2010). (with X. Blanc, F. Legoll and C. Le Bris).
 - *A numerical closure approach for kinetic models of polymeric fluids : exploring closure relations for FENE dumbbells*, Computers and Fluids, 43, 119-133, (2011). (with V. Legat and G. Samaey).
 - *Effective dynamics using conditional expectations*, Nonlinearity, 23, 2131-2163, (2010). (with F. Legoll).
 - *A multiple replica approach to simulate reactive trajectories*, Journal of Chemical Physics, 134, 054108, (2011). (with F. Cérou, A. Guyader and D. Pommier).
 - *Long-time convergence of an Adaptive Biasing Force method : the bi-channel case*, to appear in Archive for Rational Mechanics and Analysis. (with K. Minoukadeh).
 - *Convergence of a greedy algorithm for high-dimensional convex nonlinear problems*, to appear in Mathematical Models and Methods in Applied Sciences. (with E. Cancès and V. Ehrlicher).
 - *Free energy methods for efficient exploration of mixture posterior densities*, to appear in Statistics and Computing (with N. Chopin and G. Stoltz).
 - *Enhanced sampling of multidimensional free-energy landscapes using adaptive biasing*

- forces*, SIAM Journal of Applied Mathematics, 71(5), 1673-1695, (2011). (with C. Chipot).
- *Numerical study of a thin liquid film flowing down an inclined wavy plane*, Physica D, 240(21), 1714-1723, (2011). (with A. Ern and R. Joubaud).
- *Langevin dynamics with constraints and computation of free energy differences*, to appear in Mathematics of Computation. (with M. Rousset and G. Stoltz).

REFEREED CONFERENCE PROCEEDINGS
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- *Metal pad roll instabilities*, Proceedings of the 2002 TMS Annual Meeting and Exhibition, Light Metals, p. 483-487, 2002. (with J-F. Gerbeau, C. Le Bris and N. Ligonésche).
- *Mathematical analysis of a stochastic differential equation arising in the micro-macro modelling of polymeric fluids*, Probabilistic Methods in Fluids Proceedings of the Swansea 2002 Workshop, p. 205-223. (with B. Jourdain).
- *Numerical simulations of two-fluids MHD flows*, Fundamental and Applied MHD. Proceedings of the Fifth international PAMIR Conference, p. I.101-I.105, 2002. (with J-F. Gerbeau and C. Le Bris).
- *Modeling and simulation of MHD phenomena in aluminium reduction cells*, Proceedings of the fourth International Conference on Electromagnetic Processing of Materials, EPM 2003, C3-10.4, p. 57-62, 2003. (with J-F. Gerbeau and C. Le Bris).
- *Coupling PDEs and SDEs : the illustrative example of the multiscale simulation of viscoelastic flows*, in Multiscale Methods in Science and Engineering, B. Engquist, P. Lötstedt, O. Runborg, eds., Lecture Notes in Computational Science and Engineering 44, Springer, p. 151-170, 2005. (with B. Jourdain and C. Le Bris).
- *Stability analysis of simplified electrolysis cells with Mistral*, Proceeding of the 2006 TMS Annual Meeting and Exhibition, Light Metals, 2006. (with T. Tomasino, M. Le Hervet and O. Martin).
- *Linear versus nonlinear approaches for the stability analysis of aluminium production cells*, Proceedings of the 2006 ECCOMAS conference. (with J.-F. Gerbeau, C. Le Bris, A. Orriols and T. Tomasino).
- *Variational formulation of the Generalized Navier Boundary Condition*, in Recent Progress in Scientific computing, SCPDE05 conference proceeding, Eds : W Liu, M Ng and Z-C Shi, Science Press, Beijing, 2007. (with J.-F. Gerbeau).
- *Some remarks on sampling methods in molecular dynamics*, ESAIM Proceedings, 22, p. 217–233, (2008). (with F. Legoll and G. Stoltz).
- *Multiscale modelling of complex fluids : A mathematical initiation*, in Multiscale Modeling and Simulation in Science Series, B. Engquist, P. Lötstedt, O. Runborg, eds., Lecture Notes in Computational Science and Engineering 66, Springer, p. 49-138, 2009. (with C. Le Bris).
- *Some remarks on free energy and coarse-graining*, in Numerical Analysis and Multiscale Computations, Lect. Notes Comput. Sci. Eng. 82, Springer, to appear. (with F. Legoll).

RESEARCH REPORTS, PREPRINTS

- *Convergence of a stochastic particle approximation of the stress tensor for the FENE-P model*, CERMICS 2004-263 report, 2004. (with B. Jourdain).
- *Partial differential equations in finance*, CERMICS 2007-363 report, 2007. (with Y. Achdou and O. Bokanowski).

- *Micro-macro models for viscoelastic fluids : modelling, mathematics and numerics*,
<http://arxiv.org/abs/1102.0325> (with C. Le Bris).
- *A mathematical formalization of the parallel replica dynamics*,
<http://hal.archives-ouvertes.fr/hal-00596161/fr/> (avec C. Le Bris, M. Luskin et D. Perez).
- *Periodic long-time behaviour for an approximate model of nematic polymers*,
<http://hal.inria.fr/inria-00609763/fr/> (avec L. He et C. Le Bris) .

TALKS IN CONFERENCES

Invited talks (colloquia, mini-symposia, workshops) :

- Probabilistic Methods in Fluids, University of Wales, Swansea, April 2002.
- AMIF 2002, Lisbon (Portugal), April 2002.
- Journées MAS, Grenoble (France), September 2002.
- Numerical methods for multiscale problems, Leipzig (Germany), November 2002.
- SDEs and SPDEs : Numerical Methods and Applications, Edinburgh (Scotland), April 2003.
- Analysis and Numerics of Non-Newtonian Fluids, Kirchzarten (Germany), April 2003.
- Journées scientifiques MoMas, Lyon, September 2003.
- Workshop computation for multiscale problems in physics, Warwick, April 2004.
- MC2QMC 2004 conference, Juan-les-Pins, June 2004.
- Multiscale rheological models for fluids, Montreal, November 2004.
- The Montreal scientific computing days, February 2005.
- SIAM Dynamical System 2005 conference, Snowbird, May 2005.
- Computational stochastic differential equations, Bedlewo, September 2005.
- SCPDE 2005 Conference, Hong Kong, December 2005.
- Workshop on Numerics for SDEs with applications, Florida State University, February 2006.
- CANUM 2006, Guidel, June 2006.
- AIMS conference, Poitiers, June 2006.
- Workshop CERMICS / PKU, Pekin, July 2006.
- ECCOMAS conference, Hollande, September 2006.
- SimBioMa Conference, Paris, November 2006.
- Workshop Polymer models and related topics, Nice, February 2007.
- SMAI 2007, June 2007.
- Workshop New directions in Monte Carlo methods, Fleurance, June 2007.
- SciCADE 2007, Saint-Malo, July 2007.
- ICIAM07, Zurich, July 2007.
- IMA summer program on Classical and Quantum Approaches in Molecular Modeling, Minneapolis, July 2007.
- Workshop on Mathematical Issues in Complex Fluids, Pekin, October 2007.
- Workshop on particle systems, nonlinear diffusions, and equilibration, Bonn, November 2007.
- Workshop on adaptive Markov chain Monte Carlo methods, ADAPSKI, Bormio, January 2008.
- Workshop GREFI-MEFI 2008, Stochastic dynamics and probability, Marseille, March 2008.
- CANUM 2008, co-organizer of a mini-symposium on hybrid methods, May 2008.

- Workshop BIRS on Mathematical and Numerical Methods for Free Energy Calculations in Molecular Systems, Banff, June 2008.
- Workshop DqF Stochastic Differential Equations : Models and Numerics, Stockholm, October 2008.
- Workshop Molecular Dynamics, Thermostats and Convergence to Equilibrium, Edinburgh, November 2008.
- Workshop Adaptivity, robustness and complexity of multiscale algorithms, ICMS, Edinburgh, April 2009.
- Third Conference on Numerical Methods in Finance, Ecole des Ponts, Paris, April 2009.
- IMA Tutorial : Methods of Molecular Simulation, Minneapolis, May 2009.
- Meeting on PDEs, Stochastic Analysis and Simulation of Processes, Sophia-Antipolis, June 2009.
- Plenary speaker at the EPSRC Symposium Capstone Conference, Warwick, June 2009.
- Workshop Theory and Numerics for Kinetic Equations, Saarbrücken, November 2009.
- Workshop BIRS on Numerical Analysis of Multiscale Computations, Banff, December 2009.
- Workshop on Mathematical problems of computational chemistry, Pekin, January 2010.
- European Conference on Computational Mechanics (ECCM 2010), Paris, May 2010.
- Workshop Multiscale Molecular Modelling, Edinburgh, June 2010.
- Journées MAS, Bordeaux, organizer of a mini-symposium on uncertainty quantification, September 2010.
- Journées scientifiques CSMA, Nantes, September 2010.
- ESF conference on Highly Oscillatory Problems : From Theory to Applications, Cambridge, September 2010.
- Workshop on Large Scale Stochastic Dynamics, Oberwolfach, November 2010.
- Meeting on Computational Challenges in Partial Differential Equations, Swansea University, April 2011.
- Workshop on complexity and computational methods in statistics, Sante Fe, April 2011.
- Workshop on Macroscopic Modeling of Materials with Fine Structure, Carnegie Mellon University, Pittsburgh, May 2011.
- Workshop Coarse-graining of many-body systems : analysis, computations and applications, University of Crete, Greece, June 2011.
- ICIAM 2011, Vancouver, July 2011.
- **Plenary speaker at the ENUMATH conference, University of Leicester, September 2011.**
- Minisymposium on Mathematics in Materials Science, Pekin, September 2011.
- Workshop on Nucleation and Rare Events, Pekin, September 2011.
- Journées scientifiques MoMaS, Marseille, November 2011.
- Workshop “Reduced Basis, POD or PGD-Based Model Reduction Techniques : a Breakthrough in Computational Engineering?”, Cachan, November 2011.
- Workshop “Interactions EDPs/Probas : modèles probabilistes pour la simulation moléculaire”, GDR CHANT, Grenoble, November 2011.
- Workshop on Multiscale Systems : Theory and Applications, Warwick, December 2011.
- Workshop on Multiscale Modeling, Simulation, Analysis and Application, Singapore, January 2012.
- Workshop on Interplay of Analysis and Probability in Physics, Oberwolfach, January 2012.

Contributed talks :

- EPM 2003, 4th international conference electromagnetic processing of materials, Lyon (France), October 2003.
- SIAM Conference on Mathematical Aspects of Materials Science (MS04), Los Angeles, May 2004.

TALKS IN SEMINARS

France :

- Séminaire de probabilités de Paris XIII, October 2002.
- Séminaire de probabilités de l’université d’Orléans, November 2002.
- GT Milieux hétérogènes, développements asymptotiques et applications, Lyon, October 2003.
- Séminaire d’analyse numérique, Rennes, November 2003.
- Workshop on moving interfaces, CEA, May 2005.
- ENS seminar, Rennes, December 2005.
- Laboratoire Jacques-Louis Lions seminar, January 2006.
- OMEGA team seminar, INRIA Sophia-Antipolis, May 2006.
- Séminaire CEMRACS, Marseille, August 2006.
- Séminaire ADAP’MC, Paris, October 2006.
- Workshop calcul d’énergies libres, CERMICS, Paris, October 2006.
- Séminaire du LMSGC (ENPC), Paris, January 2007.
- Séminaire Analyse Numérique et EDP of Université Paris-Sud, May 2007.
- Seminar applied analysis, Université Paris-Nord, November 2007.
- Séminaire ENS Lyon, January 2008.
- Séminaire Université Paris Dauphine, February 2008.
- **Séminaire Equations aux dérivées partielles et applications, Collège de France, Paris, April 2008.**
- Séminaire MODANT, Grenoble, April 2008.
- Séminaire Equations aux dérivées partielles, Chambéry, September 2008.
- Séminaire Equations aux dérivées partielles et analyse numérique, Lille, October 2008.
- **Séminaire Equations aux dérivées partielles et applications, Collège de France, January 2010.**
- Groupe de Travail Probabilités, Statistique, et applications, Université de Marne-la-Vallée, February 2010.
- Séminaire de probabilités, Rennes, March 2010.
- Séminaire Équations aux dérivées partielles et applications, ENS Lyon, March 2010.
- Séminaire de probabilités, Nancy, April 2010.
- Séminaire Laboratoire Jacques-Louis Lions, June 2010.
- Séminaire du CMAP, Ecole Polytechnique, May 2011.
- Séminaire ANR BIGMC, Paris, December 2011.
- Séminaire de mathématiques, Université de Marne-la-Vallée, January 2012.

Abroad :

- Séminaire de mathématiques appliquées de l’EPFL, Lausanne, May 2002.
- Kolloquium Mechanik, Ruhr Universität, Bochum, December 2003.
- Applied Mathematics Seminar, MIS, Coventry University, January 2004.
- CRM and McGill Applied Mathematics Seminar, Montreal, October 2004.
- Courant Institute Applied Mathematics Seminar, New York, March 2005.
- Computational and Applied Mathematics Seminar of Penn State University, March 2005.

- Applied analysis and computation Seminar, Massachusetts University, April 2005.
- Molecular dynamics seminar, Freie Universität, Berlin, November 2005.
- KTH/SU Mathematics Colloquium, Stockholm, May 2006.
- Scientific computing seminar, Kiel, November 2006.
- Seminar über Partielle Differentialgleichungen und Numerik, Universität Zürich, June 2007.
- Applied Mathematics Seminar of the Hebrew University of Jerusalem, December 2008.
- Mathematics seminar at the Imperial College, London, March 2009.
- IMA seminar on Mathematics and Chemistry, May 2009.
- Warwick seminar on Applied Mathematics and Statistics, October 2009.
- Seminar at the Institute of Computational Mathematics (CAS), Janvier 2010.
- Seminar at Cornell University (CEE), Février 2010.
- Analysis seminar, MPI Leipzig, October 2010.

TEACHING ACTIVITIES

Invited lectures :

- CEMRACS 2008, 3h-lectures on Multiscale modelling of complex fluids : a mathematical initiation, Marseille, July 2008.
- Ecole doctorale ECODOQUI, 3h-lectures on stochastic methods in molecular dynamics, Paris, November 2008.
- Workshop stress tensor effects on fluid mechanics, 4h30-lectures on Multiscale modelling of complex fluids : a mathematical initiation, Morningside Institute, Pekin, January 2010.
- 4h-lectures on Free Energy Computations, Cornell University (School of Civil and Environmental Engineering), February 2010.
- 3h-lectures on Stochastic processes, PDEs and molecular dynamics, Université de Lille, September 2010.

From September 2010 to June 2011 :

- Professor at the Ecole des Ponts ParisTech :
 - Deterministic method in financial mathematics (from 2005).
 - Advanced course on applied mathematics and scientific computing (from 2006).
- Université Pierre et Marie Curie (M2 Mathématiques et Applications) :
 - Probabilistic numerical methods (from 2007).

Former teaching activities :

- 2002-2004 : Introductory course about analysis, probability and scientific computing, (12h) ENPC.
- 2002-2004 : A course on the scientific software Scilab, (8h) ENPC.
- 2002-2004, 2005-2007 : A first course in probability, (42h) ENPC.
- 2003-2004 : Financial mathematics, (27h) ENPC.
- 2003-2004 : A first course in scientific computing, (21h) ENPC.

PhD students

- Antonin Orriols, December 2006 (co-supervision with C. Le Bris).
- Gabriel Stoltz, June 2007 (co-supervision with E. Cancès).
- Sébastien Boyaval, Decembre 2009, (co-supervision with C. Le Bris).
- Raphaël Roux, December 2010, (co-supervision with B. Jourdain).
- Kimiya Minoukadeh, November 2010, (co-supervision with E. Cancès).

- Rémi Joubaud, from Septembre 2009, (co-supervision with A. Ern).
- Virginie Ehlacher, from September 2009, (co-supervision with E. Cancès).
- José Infante-Acevedo, from September 2009, (co-supervision with A. Alfonsi).
- David Benoit, from Septembre 2010, (co-supervision with C. Le Bris).
- Fabien Casenave, from Septembre 2010, (co-supervision with A. Ern).