

Emanuele Leoncini

Applied Mathematician, PhD

12, rue d'Aligre

75012 Paris, France

+33 (0)6 37 97 72 09

+33 (0)1 80 50 77 91

✉ emanuele.leoncini@gmail.com

📄 team.inria.fr/rap/members/leoncini/



Work experience

Current position

2010–2015 **Scholarship CJS “Young Scientist Contract”**, INRA (French national institute for agricultural research).

Former positions

2010–2013 **PhD student/researcher**, INRIA, Paris-Rocquencourt (France) – INRA, Jouy-en-Josas (France).

This work has been done in the RAP team, *Networks, Algorithms and Probability*, at INRIA (French national research center for applied mathematics and computer science) and in the BIOSYS team, *Systems Biology*, in the MIG lab, *Mathematics, Computer Science and Genome*, at INRA (French national institute for agricultural research).

2012 **Teaching assistant**, UNIVERSITÉ PIERRE ET MARIE CURIE – PARIS 6, Paris (France), Calculus, BSc math 2nd year, (26h).

2011 **Teaching assistant**, UNIVERSITÉ PIERRE ET MARIE CURIE – PARIS 6, Paris (France), Calculus, BSc math 2nd year, (16h).

2010 **MSc Internship**, INRIA, Paris-Rocquencourt (France).

Supervisor: Dirk Drasdo (BANG – INRIA, *Numerical Analysis of non linear models for Biology and Geophysics*)

Description: Agent-based models to analyze specific biological phenomena (tumor growth, cell sorting): modelling (analysis, development of different models) and numerical simulations.

Education

2010–2013 **PhD Thesis**, *Applied Mathematics – École Doctorale de l'École Polytechnique, Palaiseau (France)*.

Title: “Towards a global and systemic understanding of protein production in prokaryotes”

Distinction: “Très honorable”

Date: December 17, 2013

Supervisors: Philippe Robert (RAP – INRIA) and Vincent Fromion (MIG – INRA)

Description: conception of a new quantitative stochastic model of gene expression for a single and multiple proteins (theoretical study, stochastic simulations and applications).

Keywords: stochastic processes, mathematical models, gene expression, stochastic simulation, systems biology.

2009–2010 **Master 2 (MSc)**, UNIVERSITÉ PIERRE ET MARIE CURIE – PARIS 6, Paris (France), Master Title: “Applied Mathematics to Biology & Medicine”, Grade “très bien” (A+).

2009 **Laurea Specialistica in Applied Mathematics (MSc)**, UNIVERSITÀ DEGLI STUDI DI FIRENZE, Florence (Italy), Master Title: “Applied Mathematics”, Grade 110/110 (A+).

Competences

Research

Stochastic models for biology, noise in biological systems, applied mathematics, mathematical modelling of cell biology, teamwork.

Computer skills

Programming C++, Matlab, Fortan (basic knowledge), Python (basic knowledge).

Scientific \LaTeX , Maple, R (basic knowledge).

Programs

Office Skilled in various operating systems (Windows, Linux, Mac OS) and office packages (MS Office, OpenOffice, Keynote).

Others Cubase, Finale, Photoshop, Premiere, Inkscape.

Languages

Italian (mother tongue), English (full professional proficiency), French (full professional proficiency).

Publications

2013 V. Fromion, E. Leoncini, and P. Robert. Stochastic Gene Expression in Cells: A Point Process Approach. *SIAM Journal on Applied Mathematics*, 73(1):195–211, 2013

In preparation E. Leoncini, A. Goelzer, V. Fromion, and P. Robert. Non-Markovian Model of Gene Expression. (in preparation)

E. Leoncini, V. Fromion, and P. Robert. A Stochastic Model of the Production of Multiple Proteins in a Cell. (in preparation)

Scientific responsibility

2011-2013 Scientific committee of JUNIOR SEMINAR at INRIA Rocquencourt.

Conception, organization and scientific committee in collaboration with two PhD colleagues.

Selected Talks

September 2013 – Seminar INRA-INRIA, Sophia Antipolis (France)

June 2013 – 15th ASMDA Conference (Applied Stochastic Models and Data Analysis), Matarò (Spain)

– Conference “In honour of Michael Mackey’s 70th Birthday”, Lyon (France)

March 2013 – Mathematical Modeling in Cell Biology, Lyon (France)

January 2013 – CONTRAINTES Seminar, INRIA Paris-Rocquencourt (France)

November 2012 – Seminar “Modélisation pour l’Evolution du Vivant”, CMAP, École Polytechnique (France)

Workshops and Conferences participation

March 2012 – ALEA School, CIRM, Marseille (France)

July 2011 – 16th INFORMS Applied Probability Conference, Stockholm (Sweden)

June 2011 – 8th ECMTB (European Conference on Mathematical and Theoretical Biology) and Annual Meeting of SMB (Society for Mathematical Biology), Krakow (Poland)

April 2011 – MathWorks seminar “Overcome the limits of Excel with MATLAB” (“Dépassez les limites d’Excel avec MATLAB”), Paris (France)

December 2010 – CEA-EDF-INRIA winter school “Periodic and stochastic homogenization: theoretical and numerical aspects”, Paris-Rocquencourt (France)

Miscellaneous

Driving license Type B

Music – Piano/keyboards

– Music production

Others – Travels

– Photography

– Swimming