Cécile Taing

Postdoctoral researcher
in Applied Mathematics

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French citizen, Age: 28

Professionnal & Research Experience

Since July 2018 — **Postdoctorate in Mathematical Cancer Modeling, MONC project team, Inria Bordeaux Sud-Ouest**.
- ○ Subject: Mathematical modeling of metastatic development in kidney cancer from omics and imaging data
- ○ In collaboration with Sébastien Benzekry (MONC), the Angiogenesis and Cancer Microenvironment Laboratory (Inserm U1029), the Center of Bioinformatics of Bordeaux (CBiB) and the Center of Magnetic Resonance in Systems Biology (CRMSB)

July-Aug. 2018 — **CEMRACS 2018, Marseille, France**, *Five-weeks long research session*.
- ○ Project title: Numerical calibration of liver conductivities in irreversible electroporation treatments based on clinical imaging and electrical current measurements
- ○ Supervisors: Annabelle Collin, Olivier Gallinato, Clair Poignard (MONC), Sébastien Impériale, Philippe Moireau (M3DISIM, Inria Saclay), Olivier Séror (APHP).

June 2018 — **PhD in Applied Mathematics, Lab. J.-L. Lions, UPMC/SU, Paris, France**.
- ○ Title: Dynamics of concentration in non-local partial differential equations
- ○ Supervisors: Benoît Perthame, Alexander Lorz
- ○ Rapporteurs: José Antonio Carrillo de la Plata, Arnaud Ducrot
- ○ President: Sylvie Méléard
- ○ Examiners : Céline Grandmont, Magali Ribot, Panagiotis E. Souganidis, Nicolas Vauchelet

Jan. 2017 — **SEME (French Maths-Industry week), Lyon, France**, *in a Sanofi-Pasteur project on the comparison of immune response average levels for different vaccine candidates*.

Oct. 2016 — **SEME (French Maths-Industry week), Grenoble, France**, *in a Schneider Electric project on the modelling of electromechanical aging*.

2014-2018 — **Doctoral contract, Lab. J.-L. Lions, UPMC/SU, Paris, France**.

2014-2017 — **Teaching Assistant in Mathematics, UPMC, Paris, France**.
- ○ 88 hours of exercise classes: numerical analysis, for 3rd-year undergraduate students
- ○ 36 hours of exercise classes: matrix calculation for physicists, for 2nd-year undergraduate students
- ○ 24 hours of exercise classes: various math courses for 1st- and 2nd-year undergraduate students from the intensive bidisciplinary math-biology program in Roscoff
- ○ 36.5 hours of IT work: Scilab and Python, for 3rd-year undergraduate math students
- ○ 10 hours of oral test sessions: statistics, for 3rd-year undergraduate students from the intensive bidisciplinary math-computer science program

May-Sept. 2014 — **Research internship, Lab. J.-L. Lions, UPMC, Paris, France**.
- ○ Title: Adaptative dynamic in a chemostat-like system
- ○ Supervisors: Luis Almeida, Alexander Lorz

Education

2013-2014 — **Master 2 "Mathématiques de la Modélisation", cursus specialized in mathematics applied to biological and biomedical sciences, UPMC, Paris, France**, with honors.

Attended courses: Elliptic equations, Markov processes, Stochastic calculus, Tumor growth models, Reaction-diffusion equations, Control theory in finite and infinite dimension, Calculus of variations

2012-2013 **Master 1 in Mathematics, UPMC, Paris, France**.
Attended courses: Functional analysis, Probabilities, Mathematical Statistics, Calculus of variations and optimization, Jump processes

Research papers

- B. Perthame, M. Strugarek, C. Taing. Selection-mutation models with sexual reproduction kernels and competition. *In preparation.*
- G. Jankowiak, C. Taing, C. Poignard, A. Collin. Comparison and calibration of different electroporation models, application to rabbit livers experiments. *Submitted*
- S. Nordmann, B. Perthame, C. Taing. Dynamics of Concentration in a Population Model Structured by Age and a Phenotypical Trait. *Acta Appl. Math.*, 155:197–225, 2018.
- A. Lorz, B. Perthame, C. Taing, Dirac concentrations in a chemostat model of adaptive evolution. *Chinese Annals of Mathematics, Series B*, 38:513–538, 2017.

Reports

- A. El Dakdouki, C. Robet, B. Simon, C. Taing. Comparaison du niveau de réponse immunitaire moyens pour différents groupes de traitement de candidats vaccins, SEME report, 2017.

Conference talks and seminars

- March 2019, PDE seminar, IRMA, Strasbourg, France
- February 2019, Population dynamics seminar, IMB, Bordeaux, France
- January 2019, Scientific computing and modelling seminar, IMB, Bordeaux, France
- January 2019, Modans working groupe, MAP5, Paris Descartes, France
- November 2018, contributed talk, *Forum des jeunes mathématiciennes et mathématiciens 2018*, Orléans, France
- November 2018, I2M Math-Biology team's working group, Marseille, France
- July 2018, invited talk, *Journée EDP et applications aux modèles biologiques*, Le Havre, France
- June 2017, invited talk, Workshop *Biomaths, contrôle et optimisation*, Paris, France
- June 2017, mini-symposium talk, *Smai 2017*, Ronce-les-Bains, France
- September 2016, invited talk, Conference *Mathematics of Pattern Formation*, Bedlewo, Poland
- September 2016, invited talk, Conference *Models in Population Dynamics and Ecology*, Luminy, France
- May 2016, mini-symposium talk, *Canum 2016*, Obernai, France
- May 2016, Simbad seminar, Paris, France
- June 2015, contributed talk, *Smai 2015*, Les Karellis, France

Posters

- July 2016, presented at the Summer school *PDE and Probability for Life Sciences*, Luminy, France
- June 2016, presented at the "Seminaire de Mathematiques Superieures" 2016 dedicated to *Dynamics of Biological Systems*, Edmonton, Canada

Other talks

- October 2018, MONC team's working group, Talence, France
- March and May 2016, February 2018, LJLL PhD students' seminar, Paris, France
- March 2017, Irmar PhD students in analysis seminar, Rennes, France

○ October 2016, Inria's Junior Seminar, Paris, France

IT skills, foreign languages

○ Programming skills: Matlab, Scilab, Python, grounding in C, Java and R
○ Software: Monolix
○ Languages: English (fluent)