

## CURRICULUM VITÆ

### Fabien Crauste

PhD in Applied Mathematics

Born on January 17, 1980 (age 30) – Citizenship: French

### Institution

Institut Camille Jordan CNRS UMR5208  
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## Formation

- Since 10/2006 **CNRS Associate Scientist**
- 10/2005–08/2006 **Attaché Temporaire d’Enseignement et de Recherches (ATER)**, at the university of Pau.
- 10/2002–09/2005 **Ph.D. in Applied Mathematics.**  
Ph.D. thesis of the University of Pau, defended on June 21st 2005,  
Awarded with distinction by the jury.  
Supervisor: Mostafa Adimy, Dr.  
Title: **Mathematical study of hyperbolic partial differential equations modelling blood cells regulation processes - Applications to periodic hematological diseases.**  
Referees:  
M. B. Perthame – Professor at the ENS de Paris  
M. V. Volpert – Researcher at the CNRS, University of Lyon 1  
M. G. F. Webb – Professor at Vanderbilt University, Nashville, USA.
- 2002 **Diplôme d’Études Approfondies** in Applied Mathematics, equivalent to a Master’s Degree in Applied Mathematics, at Pau University.

## Main Research Themes

- ▶ Mathematical modelling of the living
- ▶ Population dynamics
- ▶ Age and/or maturity structured hyperbolic equations
- ▶ Delay differential equations
- ▶ Stability and Hopf bifurcation
- ▶ Modelling of erythropoiesis
- ▶ Immune response modelling

## Main Publications

Total number of publications: **26**

- ▶ F. Crauste, I. Demin, O. Gandrillon and V. Volpert. *Mathematical study of feedback control roles and relevance in stress erythropoiesis*, J. Theor. Biol., 263 (3), 303–316 (2010).
- ▶ M. Adimy, F. Crauste, My L. Hbid and R. Qesmi. *Stability and Hopf bifurcation for a cell population model with state-dependent delay*, SIAM J. Appl. Math, 70 (5), 1611–1633 (2010).
- ▶ N. Bessonov, F. Crauste, I. Demin and V. Volpert. *Dynamics of erythroid progenitors and erythroleukemia*, Mathematical Modeling of Natural Phenomena, 4 (3), 210–232 (2009).
- ▶ F. Crauste. *Delay Model of Hematopoietic Stem Cell Dynamics: Asymptotic Stability and Stability Switch*, Mathematical Modeling of Natural Phenomena, 4 (2), 28–47 (2009).
- ▶ F. Crauste, L. Pujo-Menjouet, S. Gnieys, C. Molina et O. Gandrillon, *Adding Self-Renewal in Committed Erythroid Progenitors Improves the Biological Importance of a Mathematical Model of Erythropoiesis*, Journal of Theoretical Biology, 250, 322–338 (2008).
- ▶ M. Adimy, F. Crauste and S. Ruan, *Modelling hematopoiesis mediated by growth factors with applications to periodic hematological diseases*, Bulletin of Mathematical Biology, 68 (8), 2321–2351 (2006).
- ▶ M. Adimy, F. Crauste and S. Ruan, *A mathematical study of the hematopoiesis process with applications to chronic myelogenous leukemia*, SIAM Journal of Applied Mathematics, 65 (4), 1328–1352 (2005).
- ▶ M. Adimy, F. Crauste and L. Pujo-Menjouet, *On the stability of a nonlinear maturity structured model of cellular proliferation*, Discrete and Continuous Dynamical Systems Series A, 12 (3), 501–522 (2005).