

Romain Veltz

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French citizen
Born 15/11/1982, Vitry-le-François (France)

Education

- 2008–2011 **PhD in Mathematics, Ecole Nationale des Ponts et Chaussées and INRIA Sophia-Antipolis** *Advisors* : O.Faugeras and R.Keriven. *Title* : Bifurcations in Neural Fields equations, perception of motion
- 2006–2008 **Master degree of 'Mathematics, Vision and Machine learning'** *Ecole Normale Supérieure Cachan* Specialization in machine learning and computational neuroscience.
- 2006 **Master of public administration (Corps des Ponts et Chaussées)**
2006–2008 **Corps des Ponts et Chaussées** *Ecole Nationale des Ponts et Chaussées*. two year postgraduate program specializing in machine learning, image processing, stochastic calculus and mathematics.
- 2003–2006 **Ecole Polytechnique** : Extremely competitive admission. Top scientific undergraduate school . Provides advanced training in several areas of science. I obtained a Masters degree in Quantum Physics as a major. I studied Continuum Mechanics and Mathematics as minors. *Other topics* : *relativity, chemistry, mecanics, biology, english, spanish, sociology, psychology.*
- 1999–2002 **Classe Préparatoire, option Mathématiques-Physique**, lycée Thiers (Marseille). Intensive scientific undergraduate training preparing to the national competitions for admission in the scientific "Grandes Ecoles" (Ecole Normale Supérieure, Ecole Polytechnique, etc....).
- 1999 **Scientific Baccalaureat (A-Level equivalent) with honours** Lycée Daumier, Marseille.

Teaching Experience

- 2008-2009 **Modeling-Programming-Simulating** Teaching Assistant : master level lessons for the Ecole Nationale des Ponts et Chaussées.
- 2008-2009 **Mathematical Methods for Neurosciences** : Teaching Assistant : master level lessons for the ENS Cachan master 'Mathematics, Vision and Machine Learning' and for the Ecole Normale Supérieure of Paris Math-Info cursus.

Work Experience

- 2007–2008 **Internship for the master of public administration.** Part time between the research center of INRIA Sophia Antipolis under the supervision of O.Faugeras and the company MXM specialized in Neural prosthesis.
- 2006 (*five months*) **Research internship in Physics** at Queensland University (Brisbane) under the supervision of C.Vale. *Subject* : 'Study of the motion of a Bose-Einstein condensate in a combined harmonic potential and a gaussian potential.'
- 2005 (*one month*) **Manual internship** in the Preservation Unit of the Portland State University, Oregon.
- 2008–2011 **Training Period in the Hospital Simone Veil, Paris** : making of the website of the Hospital.

Language Skills

French	Native language
English	Very good written and spoken level.
Spanish	Basic knowlegdge.

Computer Skills

Coding	Very good knowledge of C, C++, GPU (cuda) and Python languages, basic skills in Java
Mathematical softwares	Very good knowledge of Matlab, Maple and Scilab (and Pylab). Heavy use of the C++ TRILINOS Library for numerical continuation.
OS	Familiar with Windows, everyday use of Linux.

Other Interests and Hobbies

Sports	Snowboarding, KiteSurfing, Taekwondo (local competitions).
Hobbies	Design, construction and control of homemade radio-scaled gliders and jets. Keen interest in quantum physics.

Publications

Journal Papers

- *Romain Veltz, Olivier Faugeras* **Stability of the stationary solutions of neural field equations with propagation delays**, 2011, Journal of Mathematical Neurosciences (in press)
- *Romain Veltz, Olivier Faugeras* **Local/global analysis of the stationary solutions of some neural field equations**, 2010, SIAM Dynamical Systems, vol. 9
- *Olivier Faugeras, Romain Veltz, Francois Grimbert* **Persistent neural states : stationary localized activity patterns in nonlinear continuous n-population, q-dimensional neural networks**, 2008, Neural Computation vol. 28, number 1

Research Reports :

- *Romain Veltz, Olivier Faugeras* **Illusions in the Ring Model of orientation selectivity**, 2010, Arkiv, <http://arxiv.org/abs/1007.2493>

In preparation (current advanced research topics) :

- *Romain Veltz, Olivier Faugeras* **Nonlinear analysis of delayed neural field equations : interplay between constant delays and propagation delays**. (In preparation)
- *Romain Veltz* **An analytical method for computing Hopf bifurcation curves in neural field networks with space-dependent delays**, 2011, Comptes rendus de l'Académie des sciences (submitted)

Talks

- **A new twist on the ring model of orientation perception** FACETS Workshop "Macroscopic aspects of neuronal activity : VSD, LFP and Macroscopic Models", 2010, in Marseille, FRANCE.

Posters

- *Romain Veltz, Olivier Faugeras* **Space dependent delays in neural fields models**, 2011, ICMS, Edinburgh.
- *Romain Veltz, Olivier Faugeras* **Illusion in a model of detection of contours**, 2009, COSYNE, Salt Lake City.
- *Romain Veltz, Olivier Faugeras* **Illusions in a model of hypercolumn**, 2009, NeuroComp (Bordeaux)