

Laurent U. Perrinet

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Born: February 23rd, 1973—Bordeaux, France

Nationality: French

Current position

since 2004 *Researcher (CR1)*, Institut de Neurosciences Cognitives de la Méditerranée (INCM).

Areas of specialization

Spatio-temporal inference in low-level sensory areas.

Appointments held

1999 Research Scholar, USAFB (Rome, NY) / University of San Diego in California.
1997 Research Scholar, Jet Propulsion Laboratory (Nasa), Pasadena, California. Department of Terrestrial Science, Imaging Radar Laboratory
9/1995-6/1996 Engineer at Alcatel, Vienna (Austria). Department of Voice Processing Systems.

Education

1999-2003 PHD in Cognitive Neuroscience, ONERA/DTIM, Toulouse (France)
1993 - 1998 MSC in Engineering SUPAÉRO (Toulouse, France), one of the leading French Engineering Schools ("Grandes Ecoles"). Specialization in stochastic models for signal and image processing.

Selected publications & talks

JOURNAL ARTICLES

- 2010 Laurent U. Perrinet (2010), “Role of homeostasis in learning sparse representations”, *Neural Computation*, 22(7).
- 2007 Frederic Barthelemy, Laurent U. Perrinet, Eric Castet, and Guillaume S. Masson (2007), “Dynamics of distributed 1D and 2D motion representations for short-latency ocular following”, *Vision Research*, 48(4):501–22. doi: 10.1016/j.visres.2007.10.020.
- 2007 Laurent U. Perrinet et Guillaume S. Masson (2007), “Modeling spatial integration in the ocular following response using a probabilistic framework”, *Journal of Physiology (Paris)*
- 2007 Sylvain Fischer, Rafael Redondo, Laurent U. Perrinet, and Gabriel Cristóbal (2007), “Sparse approximation of images inspired from the functional architecture of the primary visual areas” *EURASIP Journal on Advances in Signal Processing*, (1):122.
- 2007 Laurent U. Perrinet (2007), “Sparse approximation of images inspired from the functional architecture of the primary visual areas” *EURASIP Journal on Advances in Signal Processing*, (1):122.
- 2004 Laurent U. Perrinet (2004), “Feature detection using spikes : the greedy approach”, *Journal of Physiology, Paris*.
- 2004 Laurent Perrinet, M. Samuelides and S. Thorpe (2004), “Coding static natural images using spiking event times : do neurons cooperate?”, *IEEE Transactions on Neural Networks, Special Issue on 'Temporal Coding for Neural Information Processing'*, 15(5):1164–75. ISSN 1045-9227.

BOOK CHAPTER

- 2007 Laurent U. Perrinet (2007) “Dynamical neural networks: modeling low-level vision at short latencies”. In *Topics in Dynamical Neural Networks: From Large Scale Neural Networks to Motor Control and Vision*, volume 142 of *The European Physical Journal (Special Topics)*. Springer Berlin / Heidelberg, mar 2007, pages 163–225. doi: 10.1140/epjst/e2007-00061-7.

TALKS

- 2008 Laurent U. Perrinet (2008), “Adaptive sparse spike coding : applications of neuroscience to the compression of natural images.” In *Optical and Digital Image Processing Conference 7000 - Proceedings of SPIE Volume 7000, 7 - 11 April 2008*, pages 15 – S4