

Laurent U. Perrinet

Researcher in Computational Neuroscience
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Research interests

I am interested in bridging the gap between the structure and the function of neural systems by showing how they optimally adapt to the statistics of natural environments.

Born: February 23rd, 1973—Bordeaux, France
Nationality: French

Current position

since 2004

Researcher (CNRS), Institut de Neurosciences de la Timone (INT).

Areas of specialization

Spatio-temporal inference in low-level sensory areas.
Motion Perception.
Free-energy and active perception.

Appointments held

2010–12	Visiting Scholar, UCL (London, UK). Karl Friston's theoretical neurobiology group.
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
9/1995-6/96	Engineer at Alcatel, Vienna (Austria). Department of Voice Processing Systems.

Education

2014	HDR Aix-Marseille Université
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

JOURNAL ARTICLES

- 2019 Sandrine Chemla, Alexandre Reynaud, Matteo diVolo, Yann Zerlaut, Laurent U Perrinet, Alain Destexhe et Frédéric Chavane. “Suppressive waves disambiguate the representation of long-range apparent motion in awake monkey V1.” **Journal of Neuroscience**.
- 2017 Mina A Khoei, Guillaume S Masson et Laurent U Perrinet. “The flash-lag effect as a motion-based predictive shift.” **PLoS Computational Biology**.
- 2015 Jonathan Vacher, Andrew Isaac Meso, Laurent U Perrinet et Gabriel Peyré. “Biologically Inspired Dynamic Textures for Probing Motion Perception.” **Advances in Neural Information Processing Systems**.
- 2012 Karl Friston, Rick A. Adams, Laurent U. Perrinet and Michael Breakspear, “Perceptions as Hypotheses: Saccades as Experiments”, **Frontiers in Psychology**.
- 2012 Claudio Simoncini, Laurent U. Perrinet, Anna Montagnini, Pascal Mamassian and Guillaume S. Masson, “More is not always better: dissociation between perception and action explained by adaptive gain control”, **Nature Neuroscience**.
- 2012 Paula S. Leon, Ivo Vanzetta, Guillaume S. Masson and Laurent U. Perrinet, “Motion Clouds: Model-based stimulus synthesis of natural-like random textures for the study of motion perception”, **Journal of Neurophysiology**.
- 2012 Laurent U. Perrinet and Guillaume S. Masson, “Motion-based prediction is sufficient to solve the aperture problem”, **Neural Computation**.
- 2010 Laurent U. Perrinet, “Role of homeostasis in learning sparse representations”, **Neural Computation**.
- 2004 Laurent U. Perrinet, Manuel Samuelides and Simon Thorpe, “Coding static natural images using spiking event times : do neurons cooperate?”, **IEEE Transactions on Neural Networks**.

BOOK

- 2015 Gabriel Cristobal, Laurent U Perrinet et Matthias S Keil, editors. “Biologically Inspired Computer Vision.” **Wiley-VCH** doi : 10.1002/9783527680863.