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.