

Laurent Perrinet

Researcher in Computational Neuroscience (DR2 CNRS)

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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.

Areas of specialization

Spatio-temporal inference in low-level sensory areas. Unsupervised learning in topographic maps. Predictive processes and active perception.

Education

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| 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

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| 2021 | Victor Boutin, Angelo Franciosini, Franck Ruffier, Frédéric Chavane and Laurent U Perrinet. "Sparse Deep Predictive Coding captures contour integration capabilities of the early visual system." PLoS Computational Biology . |
| 2020 | Chloé Pasturel, Anna Montagnini and Laurent Perrinet. "Humans adapt their anticipatory eye movements to the volatility of visual motion properties." PLoS Computational Biology . |
| 2019 | Sandrine Chemla, Alexandre Reynaud, Matteo diVolo, Yann Zerlaut, Laurent Perrinet, Alain Destexhe and Frédéric Chavane. "Suppressive waves disambiguate the representation of long-range apparent motion in awake monkey V1." Journal of Neuroscience . |
| 2012 | Karl Friston, Rick A. Adams, Laurent Perrinet and Michael Breakspear, "Perceptions as Hypotheses: Saccades as Experiments", Front in Psychology . |
| 2012 | Claudio Simoncini, Laurent Perrinet, Anna Montagnini, Pascal Mamassian and Guillaume Masson, "More is not always better: dissociation between perception and action", Nature Neuroscience . |
| 2010 | Laurent Perrinet, "Role of homeostasis in learning sparse representations", Neural Computation . |
| 2004 | Laurent Perrinet, Manuel Samuelides and Simon Thorpe, "Coding static natural images using spiking event times : do neurons cooperate?", IEEE Transactions on Neural Networks . |