

**Jean Laurens, PhD**

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Born October 21<sup>th</sup>, 1978

Nationality: French

**Curriculum Vitae****Research overview**

My scientific research fields encompass the vestibular field, that I have studied at the theoretical (Bayesian modeling of self-motion perception) and physiological levels (neural recordings in behaving rodents and primates), and the field of spatial navigation, in particular the head direction cells system. I am currently conducting and supervising theoretical work and neuronal recordings studies that aim at uncovering the 3D properties of the head direction cell system. I have studied other fields related to movement neuroscience, including neuronal recordings in the motor cortex of freely moving macaques. This confers me a very broad vision in the field of movement neuroscience and navigation as well as an expertise at all levels, from the theory to the neurophysiology.

**Grants**

2012: Co-principal investigator with Dora Angelaki on the NIH grant R01 EY012814-13, “Neural organization and function of the vestibulo-cerebellum”.

2015: Co-investigator with Dora Angelaki on the Brain Initiative grant U01-NS094368-01, “Dynamic network computations for foraging in an uncertain environment”.

**Selected Publications**

- **Laurens J**, Angelaki DE. The Brain Compass: A Perspective on How Self-Motion Updates the Head Direction Cell Attractor. *Neuron*. 2018
- **Laurens J**, Angelaki DE. A unified internal model theory to resolve the paradox of active versus passive self-motion sensation. *Elife*. 2017 Oct 18;6
- **Laurens J**, Kim B, Dickman JD, Angelaki DE. Gravity orientation tuning in macaque anterior thalamus. *Nat Neurosci*. 2016 Dec;19(12):1566-1568.
- **Laurens J**, Meng H, Angelaki DE. Neural representation of orientation relative to gravity in the macaque cerebellum. *Neuron*. 2013 Dec 18;80(6):1508-18.
- **Laurens J**, Meng H, Angelaki DE. Computation of linear acceleration through an internal model in the macaque cerebellum. *Nat Neurosci*. 2013 Nov;16(11):1701-8.

**Complete lists of publications:**

<http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/44638210/>

<https://scholar.google.com/citations?user=4dentLsAAAAJ>

## Studies and positions

Current: Group Leader at the Ernst Strüngmann Institute for Neuroscience, Frankfurt, Germany

2015-2019: Assistant Professor at Baylor College of Medicine, Dpt. of Neuroscience, Houston, USA.

2013-2015: Research Associate in Grégoire Courtine's laboratory, EPFL, Switzerland, in collaboration with the Chinese Academy of Medical Sciences.

2010-2013: Post-doc at the Washington University of St Louis (Dora Angelaki and Pablo Blazquez laboratories).

2007-2010: Post-doc at the Vestibulo-Oculomotor Laboratory, Neurology Clinic, University Hospital, Zürich, Switzerland.

2002-2006: PhD in Cognitive Sciences at the Laboratoire de Physiologie de la Perception et de l'Action (LPPA, Paris, France), on the topic: "Bayesian modelling of self-motion perception", Paris, under the supervision of Jacques Droulez.

2001-2002: Computer Science Master, Université Marne-la-Vallée, Ecole Normale Supérieure de Lyon.

1998-2002: Molecular and Cellular Biology Master, Université Lyon I, Ecole Normale Supérieure de Lyon

1998: Admission at the Ecole Normale Supérieure de Lyon.

## Teaching and other experiences

2016, 2017: Psychophysics and modeling of the vestibular system class (3 hours), Baylor College of Medicine.

2013: Training in Consulting in Biotechnologies with the BALS group (Washington University in St Louis).

2002-2004: Biostatistics (100 hours), Paris VI.

2001-2003: Programming (50 hours) with MatLab, Paris VI and Université Marne-la-Vallée

## Other

Hobbies: Photography (<http://jeanl.smugmug.com/>), Sailing, Fencing, Classical music.

Languages: French, English, Basic in German.

Aquarium macrophotography pictures published in Martin Reith, Jean Laurens, Der Pfeil aus der Röhre, Koralle 47, pp34-37.