

Patricia Bonnavion, PhD

Senior Postdoc Fellow, Luis de Lecea lab

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Brief Summary

I earned my Ph.D. in physiology and physiopathology in 2008 at the University Pierre & Marie Curie (UPMC) in Paris. My research interests were initially oriented on the brainstem neural circuits governing sleep/wake transitions with a particular focus on the serotonin (5-HT) signaling. As I joined Luis de Lecea's lab as a postdoc fellow, I pursued studying the dynamic of arousal systems across vigilance states and in response to environmental & behavioral challenges that threaten and disrupt homeostasis. My work focuses on the signal integration and high inter-connectivity of the lateral hypothalamus and monoaminergic neurons using combinations of optogenetics, behavior and EEG analysis.

Education

Postdoc, Stanford University, CA USA – 2009-Present

Luis de Lecea lab, Department of Psychiatry & Behavioral Sciences

PhD, Université Pierre et Marie Curie (UPMC), Paris, France – 2004-2008

Michel Hamon lab, INSERM. Supervisor: Joelle Adrien

Master Degree, UPMC, Paris, France – 2003-2004

Neuroscience Program

Skills

Polysomnographic data acquisition & analysis
Stereotaxy
Behavior & Optogenetics
Pharmacology & DREADDs/RASSL
Neuroanatomy & Tracing studies

Fellowships & Awards

- The Hilda & Preston Davis Foundation Postdoc Fellowship (2009-2012)
- Prix de thèse Albert Sézary, Académie Nationale de Médecine, France (2009)
- The International Brain Research Organization (IBRO) Research Fellowship (2008)
- Postdoc fellowship, Association Française des Femmes Diplômées des Universités (2008)
- Research grant, Fondation Singer-Polignac (2008)
- PhD research fellowship, Fondation pour la Recherche Médicale en France (2008)
- SFN Travel Award, IBRO (2007)
- Sleep Research Society (SRS) Trainee award, Associated Professional Sleep Societies (APSS), Minneapolis, USA (2007)

- Trainee award, French Society on Sleep Research and Sleep Medicine (SFRMS), Sleep Meeting, Albi, France (2006)
- PhD Research fellowship, UPMC (2004-2007)

Publications

Bonnavion P, Jackson AC, Carter ME, Nicoll R, de Lecea L (in preparation) A neural circuit in the lateral hypothalamus translates signals about energy balance into glucocorticoid secretion.

Carter ME, Brill J, **Bonnavion P**, Huguenard JR, Huerta R, de Lecea L (2012) A mechanism for Hypocretin-mediated sleep-to-wake transitions (submitted).

Kallupi M, Cannella N, Economidou D, Ubaldi M, Ruggeri B, Weiss F, Massi M, Marugan J, Heilig M, **Bonnavion P**, de Lecea L, Ciccocioppo R (2010) Neuropeptide S facilitates cue-induced relapse to cocaine seeking through activation of the hypothalamic hypocretin system. *PNAS* 107 (45): 19567-72.

Bonnavion P, de Lecea L (2010) Hypocretins in the control of sleep and wakefulness. *Curr Neurol Neurosci Rep* 10 (3): 174-9.

Bonnavion P, Bernard JF, Hamon M, Adrien J, Fabre V (2010) Heterogeneous distribution of the 5-HT_{1A} receptor mRNA in chemically identified neurons of the mouse rostral brainstem. *J Comp Neurol* 518 (14): 2744-70.

Loucif AC, **Bonnavion P**, Macri B, Golmard JL, Boni C, Melfort M, Leonard G, Lesch KP, Adrien J, Jacquin TD (2006) Gender-dependent regulation of G-protein-gated inwardly rectifying potassium current in dorsal raphe neurons of knock-out mice devoid of the 5-hydroxytryptamine transporter. *J Neurobiol* 66 (13): 1475-88.

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