

BIOGRAPHICAL SKETCH

Name / Given name PEIGNEUX Philippe

Position Title(s) Full Professor (Professeur Ordinaire), Chair Clinical Neuropsychology Francqui Research professor (2013-2016)
Director, Neuropsychology and Functional Neuroimaging Unit (UR2NF) affiliated at CRCN - Centre de Recherches Cognition et Neurosciences and UNI - ULB Neurosciences Institute

Main affiliation Université Libre de Bruxelles (ULB)

Address Avenue F.D. Roosevelt 50 B-1050 Bruxelles, Belgium
Tel 02 650 2639 (secretary 650 4581 / 2631) Fax 02 650 2209
Email: Philippe.Peigneux@ulb.ac.be ;
Web: <http://dev.ulb.ac.be/ur2nf/> ; <http://crcn.ulb.ac.be/lab/ur2nf/> ;
<http://uni.ulb.ac.be/>

Education PhD Psychological Sciences, Liège University [ULg], Belgium, 2000
Master Psychological Sciences, ULg, 1996

Topical research The current research conducted at the Neuropsychology and Functional Neuroimaging Research Group is experimental in nature while extending to the clinical and developmental domains. Our research activities mainly but not exclusively focus on investigating the relationships between sleep, learning and memory consolidation processes, and in a wider perspective, the interrelationships between cognitive processes and vigilance states. This includes sleep and biological rhythms in both healthy and pathological conditions as our areas of research cover sleep and circadian disorders, children development and healthy ageing, disorders of consciousness (coma, vegetative state), developmental (e.g. ADHD) and epilepsy syndromes, other neurological disorders (Multiple Sclerosis, Parkinson) and pathological ageing (Alzheimer disease). We specifically focus on the processes by which novel representations are created in memory and the mechanisms by which information is consolidated into long-term memory. We are also interested in the understanding and investigation of major neuropsychological syndromes. Our studies are primarily conducted using behavioural protocols as well as advanced brain imaging techniques, e.g. structural (MRI) and functional magnetic resonance imaging (fMRI), electroencephalography (EEG), magnetoencephalography (MEG), transcranial direct current stimulation (TDCs) and near-infrared spectroscopy (NIRS).

Positions

2014 - now Full Professor (tenured), Chair Clinical Neuropsychology, Faculty of Psychological Sciences, ULB

2013 - 2016 Francqui Research Professor, ULB

2010 - 2014 Professor (tenured), Chair Clinical Neuropsychology, Faculty of Psychological Sciences, ULB

2006 – 2010 Associate Professor (tenured), Chair Clinical Neuropsychology, ULB

2006 - now Research Associate (second affiliation), Faculty of Sciences, Cyclotron Research Centre, Liège University (ULg)

2004 – 2010 Adjunct Professor, Faculty of Psychological Sciences, ULg

2003 – 2006 Senior Post-doctoral Researcher, Cyclotron Research Centre, ULg

2002 – 2003 Post-doctoral Researcher, Cyclotron Research Centre, ULg

1997 – 2001 Doctoral Researcher, Cyclotron Research Centre, ULg

2002 – 2004 Research Assistant Professor, Faculty of Psychological Sciences, ULg

1997 – 2006 Scientific Collaborator, Neuropsychology Department, ULg

Research Supervision

PhD Theses supervision: 7 completed, 7 ongoing
PhD follow-up committees: 16 completed, 7 ongoing
PhD Jury Membership: 14 international, 24 national
Post-doc supervision: 4 completed, 4 ongoing
Master theses supervision 90 completed

Professional Memberships and Honours

2013 Member of the Governing Council of the Federation of European Neuroscience Societies (FENS; <http://www.fens.org/>)
2012 President, European Sleep Research Society (ESRS ; <http://www.esrs.eu/>)
2012 Regional (FR/BE/CH) Delegate of the International Neuropsychological Symposium (INS; <http://ins-1951.org/INS/>)
2011 Member of the National Committee of Psychological Sciences at the Royal Academy of Belgium
2011 Local Organizing Chair for the 2015th meeting and member of the Executive Council of the World Federation for Sleep Research and Sleep Medicine (WFSRSM)
2009 - 2012 Founding and board member of the Cognitive and Affective Neuroscience Society (ESCAN; <http://www.escaneurosci.eu/>)
2008 - 2012 Secretary, European Sleep Research Society (ESRS; http://www.esrs.eu)
2007 Belgian Association for Psychological Sciences (BAPS) member
2006 – 2008 European Sleep Research Society (ESRS) Scientific Committee member
2003 BBS (Behavioral and Brain Sciences) Associate
2002 Organization for Human Brain Mapping (OHBM) member
2001 ESRS member
2000 Association for Scientific Study of Consciousness (ASSC) member

Scientific Committee and Editorial Boards

Revue de Neuropsychologie (<http://libbey.fontisma.com/npv/>)
Sleep (<http://www.journalsleep.org>)
Neuroscience Imaging (<http://www.novapublishers.com>)
Open Behavioral Sciences (The Open Behavioral Science Journal, Open Behavioral Science Letters and Open Behavioral Science Reviews)
Frontiers in Sleep and Chronobiology (<http://www.frontiersin.org/>)

Research Support

Ongoing research support

1/01/2015 - 31/12/2018 Hypnos' healing powers: The role of sleep in fear generalization, (Co-promotor) FWO grant number G.0760.15N. Tom BECKERS (KUL), Yannick BODEZ (KUL) and Philippe PEIGNEUX (ULB)

1/10/2014 - 31/12/2019 Research Logistic Collaborator position (Co-promotor). Investigation with magnetoencephalography of major human brain systems and their alteration in brain disorders. Serge GOLDMAN, Philippe PEIGNEUX, Patrick VAN BOGAERT, Xavier DE

TIÈGE

1/01/2014 - 31/12/2017 WBI-CAPES Projet N°7 (main promotor). A dose-response study of the combined psychophysiological effects of acute sleep deprivation and hypoxia. Co-promotors Marco Túlio de Mello, Psychobiology Department Universidade Federal de São Paulo, Nathalie Pattyn (Unité VIPER, Ecole Royale Militaire) and Olivier Mairesse (VUB).

1/10/2013 – 30/09/2015 Brains Back to Brussels project (P. Peigneux promotor) awarded to Dr Rachel Leproult: A neurophysiological, cognitive and biological investigation of the effects of bedtime extension as an intervention to counteract the adverse effects of chronic sleep loss

1/07/2013 - 30/06/2016 FQRNT Research Project: Cortical localization of oscillatory activities and functional connectivity during sleep in aging: a comprehensive approach combining electroencephalography (EEG) and magnetoencephalography (MEG). Promotors J-M Lina (LATIS - Laboratoire de Traitement de l'Information des Signaux, ETS et PhysNum laboratory at the Centre de Recherche Mathématique, Université de Montréal), J. Carrier (Sleep laboratory, Institut Universitaire de Gériatrie de Montréal), P. Jolicoeur (Centre MEG of the Université de Montréal), I. Timofeev (Université Laval, Québec), P. Peigneux (ULB).

1/07/2013 – 30/06/2017 FNRS Research project (PDR) 14626883 (principal promotor): Within-sleep stimulation of brain activity and formation of novel memories.

1/06/2012 - 30/05/2017 National Institute of Health (NIH) R01 HD033487-15 project (consultant) Neuromaturational Delays in Iron Deficient Anemic Infants. Main promotor Prof Dr Patricio Peirano (INTA, University of Chile) in collaboration with Prof Betsy Lozoff and Prof Beatriz Luna (University of Michigan at Ann Arbor)

1/01/2012 – 31/12/2015 FRSM project 7020836 (principal promotor): Memory consolidation and brain plasticity processes in normal and pathological ageing. Other promotors Prof P Van Boagert (LCFC [Laboratoire de Cartographie Fonctionnelle du Cerveau] et Département de Neurologie Pédiatrique, ULB) and J-C Bier (Faculté de Médecine, ULB)

1/10/2010 – 30/09/2015 Action de Recherche Concertée [ARC] project (co-principal promotor) Pathophysiology of brain plasticity processes in memory consolidation. Other promotors P. Van Bogear (LCFC [Laboratoire de Cartographie Fonctionnelle du Cerveau] et Département de Neurologie Pédiatrique, ULB), A. Kerchove d'Exaerde (Laboratoire de Neurophysiologie, Faculté de Médecine, ULB)

Completed research support

1/01/2012 – 31/12/2013 FNRS Large Equipment and Infrastructure Project 8833807 (Coordinator and Principal Investigator): IP-CONE Integrated Projects in Cognition and Neurosciences. Other promotors Profs. Alain Content, Arnaud Destrebecqz, Axel Cleeremans, Cécile Colin, Jacqueline Leybaert, Régine Kolinsky, Wim Gevers (CRCN - Centre de Recherche Cognition et Neuroscience, ULB)

1/10/2010 – 30/09/2013 Brains Back to Brussels project (P. Peigneux promotor) awarded to Dr Rachel Leproult, formerly at Chicago University: A neurophysiological, cognitive and biological investigation of the effects of bedtime extension as an intervention to counteract the adverse effects of chronic sleep loss.

1/10/2011 – 30/09/2012 Projet Pilote du Réseau de Bio-Imagerie du Québec (co-promotor) Localisation corticale et connectivité fonctionnelle en sommeil au cours du vieillissement: méthodes combinant l'électroencéphalographie (EEG) et la magnétoencéphalographie (MEG). Other promotors : J-M Lina (Ecole de Technologie Supérieure, Montréal, Canada) and J. Carrier (Faculté de Psychologie, Université de Montréal, Canada)

1/1/2009 - 31/12/2012 Crédit aux Chercheurs 1.5.184.10.F (principal promotor): Consolidation or protection against interference? An investigation of the contribution of sleep stages for post-learning memory consolidation processes in narcolepsy and hypersomnia, and in selective naps in healthy subjects

1/1/2010 - 31/12/2012 FRSM project 3.4.508.10.F (co-promotor): Neurophysiology of epileptic interictal activities and of their impact on cognition, language, and sleep-dependent memory process. A MEG, fMRI and FDG-PET multimodal approach. Other promotors Prof P Van Boagert (principal promotor, ULB)

1/1/2009 - 31/12/2012 FRSM project 3.4.582.09.F (principal promotor): Neural bases of learning and long term consolidation of sequential regularities. Combined effects of discrete vs. continuous learning mode and post-training sleep. Other promotors Dr P Maquet (ULg), Prof A Cleeremans (ULB), Prof P Van Boagert (ULB)

1/1/2009 - 31/12/2012 FRFC project 2.4.627.09.F (co- promotor): The structuration of information in memory: A behavioural and imaging approach of the temporal course of learning. Other promotor Prof A Cleeremans (principal promotor, ULB)

1/1/2008 - 31/12/2011 FRSM project 3.4.594.08.F (principal promotor): The influence of hemispheric lateralization on the dynamics of sleep-dependent memory consolidation processes: a cognitive, neuropsychological and functional brain imaging approach. Other promotors Prof S Goldman (ULB), Prof D Baleriaux (ULB)

1/1/2008 - 31/12/2011 IISN project 4.4.508.08.F (co-promotor): Multi-disciplinary study of residual cerebral activation in altered states of consciousness : EEG-fMRI, MEG and dopaminergic PET analyses of perfusion, electrical and neurotransmission evoked neuronal responses. Other promotors Prof S Goldman (principal promotor, ULB), Prof S Laureys (ULg), Prof A Luxen (ULg)

1/1/2008 - 31/12/2011 FRSM project 3.4.516.08.F (co-promotor): Genetics and ADHD: complementary approaches of case-control association studies and trios with exploration of the relationship between genotype-intermediate phenotype and imaging. Other promotors Dr I Massat (principal promotor, ULB), Prof J Mendlewicz (ULB)

1/1/2010 - 31/12/2010 FRSM project 3.4.516.08.F (co-promotor): Major depressive disorder, emotional bias and working memory: neuroimaging and molecular genetic investigation. Other promotors Dr I Massat (principal promotor, ULB), Prof M Ansseau (ULg), Prof P Verbanck (ULB), Prof J Mendlewicz (ULB)

1/1/2008 - 31/12/2010 FRFC project 2.4.621.07.F (co-promotor): Hearing lips and hands : neuroanatomical investigation of phonological processes in deaf adults. Other promotors Prof J Leybaert (principal promotor, ULB), Prof B Charlier (ULB)

Selected five main publications (10 past years; out of > 124 international peer-reviewed articles and > 36 book chapters)

Leproult R, Deliens G, Gilson M, and **Peigneux P** (2014) Beneficial impact of sleep extension on fasting insulin sensitivity in adults with habitual sleep restriction Sleep PMID: 25348128 IF: 5.05

Schmidt C, Collette F, Leclercq Y, Sterpenich V, Vandewalle G, Berthomier P, Berthomier C, Philipps C, Tinguely G, Darsaud A, Gais S, Schabus M, Desseilles M, DangVu TT, Salmon E, Balteau E, Degueldre C, Luxen A, Maquet P, Cajochen C, and **Peigneux P** (2009) Homeostatic sleep pressure and responses to sustained attention in the suprachiasmatic area. Science 324(5926),516-9 IF: 30,631

Gais S, Albouy G, Boly M, Dang-Vu TT, Darsaud A, Desseilles M, Rauchs G, Schabus M, Sterpenich V, Vandewalle G, Maquet P and **Peigneux P** (2007) Sleep transforms the cerebral trace of declarative memories. PNAS USA, 104, 18778-83. IF: 10,2310

Peigneux P, Orban P, Balteau E, Degueldre C, Luxen A, Laureys S, Maquet P (2006) Offline Persistence of Memory-Related Cerebral Activity during Active Wakefulness. PLoS Biology, 4, 647-658. IF: 14,6720

Peigneux P and Laureys S, Fuchs S, Collette F, Perrin F, Reggers J, Phillips C, Degueldre C, Del Fiore G, Aerts J, Luxen A, Maquet P (2004) Are spatial memories strengthened in the human hippocampus during slow wave sleep? Neuron 44, 535-545. F.I. : 14,3050