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Lille Neuroscience & Cognition




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Le mot du directeur / A word from the director



Neurosciences accompany you in your daily life, and this "neuro" prefix is everywhere, from nutrition to education. The Hauts de France region and the Lille metropolitan area have many players involved in cognitive sciences and artificial intelligence, and it gives me great pleasure to give you an overview of our research center dedicated to neurological diseases, mental health and neuroendocrinology. The hospital campus of the city of Lille, in the North of France, is the perfect place to gather two hundred fifty researchers and neuroscientists. Welcome to the « Lille Neuroscience & Cognition » research center.

The "Lille Neuroscience & Cognition" research center is home to internationally renowned researchers in the fields of blood-brain barriers, Alzheimer's disease, Parkinson's disease, stroke and other neurological disorders. It works to improve diagnostic and therapeutic approaches to brain diseases.

The researchers and neuroscientists at the "Lille Neuroscience & Cognition" research center cover all areas of research, from the most molecular to the most integrated. In the following pages, you will discover our teams and their projects. We look forward to meeting you on a regular basis to share our passion and progress. We look forward to working with you to better understand the brain.

Lille Neuroscience & Cognition



JOIN US

Luc Buée luc.buee@inserm.fr
Directeur du centre de recherche
Lille Neuroscience & Cogntion

Some awards from our KOLs

David Blum, Prize Rachel Ajzen et Léon Iagolnitzer 2023
Luc Buée, Foreign Member, Royal Academy of Medicine of Belgium
Prix Duban 2020
Charlotte Cordonnier et Renaud Jardri, Institut Universitaire de France
Caroline Moreau, Prix Marie-Paule Burrus 2022
Vincent Prévot, Grand Prix FRM 2023
Grand Prix scientifique 2023 Fondation NRJ
Prix Edwin B Astwood 2023 Endocrine Society

***previous page** : The 6th Center Day, staff exploring the Lille Museum of Arts (Musée des Beaux Arts, Lille)*

Lille Neuroscience & Cognition



A translational approach to healthcare : https://lilncog.eu



An Inserm research center at the heart of the University Hospital of Lille, bringing together biologists, chemists, clinicians, pathologists, pharmacists, psychologists, radiologists... to understand the brain and its links with our environment.

An Inserm research center associated with expert National institutes : CNRMAJ: National Reference Centre for early-onset Alzheimer's disease; LiCEND: Centre of excellence on neuro-degenerative disorders & CN2R: National Centre on psychotrauma.

An Inserm research center hosting European projects of excellence (ERC Watch, ERC ReprodAMH, ERC IONOS), spin-offs (In Brain Pharma, SPQI) and societal projects (MHASC, Vigilans...).

An Inserm research and training center for researchers and healthcare staff at the heart of the hospital campus, with full access to technical and methodological facilities. From therapeutic chemistry to clinical research, the « Lille Neuroscience & Cognition » research center covers all aspects of neuroscience research: anatomo-pathology, biochemistry, biology, chemistry, clinical, cognition, behavior, diagnosis, electrophysiology, functional explorations, imaging, neurology, pharmacology, pre-clinical, psychiatry, psychology, mental health, therapy....

An Inserm research center focusing on brain dysfunctions and their origins and consequences: Alzheimer's, Anorexia, Autism, Frontotemporal Lobar Degeneration, Diabetes, Hallucinations, Huntington's, Obesity, Parkinson's, Prion, Multiple Sclerosis, Amyotrophic Lateral Sclerosis, Schizophrenia, Stroke, Down's Syndrome, Kallmann's Syndrome, Polycystic Ovary Syndrome...

In conjunction with a clinical investigation center and biological collections, a research center with five Inserm-certified teams: 1) Degenerative & vascular cognitive disorders (D Devos); 2) Alzheimer & Tauopathies (L Buée); 3) Plasticity & Subjectivity (R Jardri/D Pins); 4) Brain Biology & Chemistry (P Melnyk); 5) Development & Plasticity of the neuroendocrine brain (V Prévot).

Revues

1) Chou ML, Babamale AO, Walker TL, Cognasse F, Blum D, Burnouf T (2023) Blood-brain crosstalk: the roles of neutrophils, platelets, and neutrophil extracellular traps in neuropathologies. **Trends Neurosci**, 46(9):764-779.
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3) Leptourgos P, Bouttier V, Denève S, Jardri R (2022) From hallucinations to synaesthesia: A circular inference account of unimodal and multimodal erroneous percepts in clinical and drug-induced psychosis. **Neurosci Biobehav Rev**135:104593.
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Troubles cognitifs dégénératifs et vasculaires

David DEVOS david.devos@chu-lille.fr



This team, made up of clinical and pre-clinical researchers, is transdisciplinary. It is at the interface between neurology, pharmacology and brain imaging. Its research project is focusing on the translational, transnosographic and multimodal study of cognitive disorders associated with degenerative processes or neurovascular lesions.

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Alzheimer & Tauopathies

Luc BUÉE luc.buee@inserm.fr



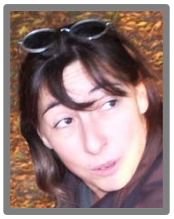
This team is interested in the pathophysiological mechanisms leading to cognitive disorders. Their work focuses on tau, a protein involved in the physiopathology of Alzheimer's disease and related disorders, going from the gene to the clinic and from basic research to biomedical application. They explore tau aggregation and its links to amyloid pathology and inflammation.

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Plasticity & Subjectivity

Renaud JARDRI renaud.jardri@chu-lille.fr **/ Delphine PINS**





The aim of their research is to determine the impaired mechanisms involved in subjective and intersubjective experiences as those observed in psychiatric conditions, addictions and more generally along a continuum ranging from normal to pathology.

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Brain Biology & Chemistry

Patricia MELNYK patricia.melnyk@univ-lille.fr



This team brings together chemist, biologists and spectroscopists.

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Development & plasticity of the neuroendocrine brain

Vincent PRÉVOT vincent.prevot@inserm.fr



The main objective of this laboratory is to decipher the complex dialogue that takes place between the brain and the rest of the body: the role played by the hypothalamus in the control of metabolism and reproduction, and the consequences of a deregulation of this dialogue on the body's homeostasis, cognitive functions, and brain aging.

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Contact Lille Neuroscience & Cognition

Secrétaire Générale (Bâtiment Biserte): Dr. Céline Brand

Inserm U1172, Rue Polonovski, 59045 Lille, France

Tel : +33 320 298850

Email : celine.brand@inserm.fr



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