

# APPLY

## **PPU Pasteur – classic**



**#1**

PhD Project Title: The phylodynamics of bacterial STIs: leveraging clonal data in multi-cluster outbreaks

PhD Supervisor: Sebastian Duchene

Laboratory Team name: Evolutionary Dynamics of Infectious Diseases

**#2**

PhD Project Title: Unraveling the NK cell signatures and mechanisms of durable HIV remission

PhD Supervisor: Asier Saez-Cirion

Laboratory Team name: Viral Reservoirs and Immune Control

**#3**

PhD Project Title: Neuroimmune Interactions in Mood Disorders: Unraveling the Brain–Immune System Dialogue

PhD Supervisor: Pierre-Marie Lledo

Laboratory Team name: Perception & Action

**#4**

PhD Project Title: Unraveling  $\alpha$ -Synuclein Spreading in Human Midbrain Organoids

PhD Supervisor: Anna Pepe

Laboratory Team name: Membrane Traffic and Pathogenesis

**#5**

PhD Project Title: Proximity Labelling-Based Identification and Molecular Characterization of Nicotinic Receptor partners

PhD Supervisor: Marie Prevost

Laboratory Team name: Signalisation and Receptors Dynamics

#6

PhD Project Title: Stromal regulation of skin immunity and repair

PhD Supervisor: Lucie Peduto

Laboratory Team name: Stroma, Inflammation and Tissue Repair

#7

PhD Project Title: Functional analyses of genetically modified natural killer cells (Genetically Altered Innate immunity: GAIN)

PhD Supervisor: Michaela Müller-Trutwin

Laboratory Team name: HIV, Inflammation and Persistence

#8

PhD Project Title: Homeostasis and repair of cranial myofibres

PhD Supervisor: Glenda Comai

Laboratory Team name: Stem Cells And Development

#9

PhD Project Title: Autophagy in real time - molecular imaging of cellular recycling and renewal

PhD Supervisor: Thomas Wollert

Laboratory Team name: Membrane Biochemistry and Transport

#10

PhD Project Title: Role of Leishmania-induced host microRNAs in suppressing regulated cell death (RCD) during macrophage infection

PhD Supervisor: Gerald Spaeth

Laboratory Team name: Molecular Parasitology and Signaling

#11

PhD Project Title: Using advanced genome editing to probe the P. falciparum genome and eradicate malaria

PhD Supervisor: Sebastian Baumgarten

Laboratory Team name: Parasite RNA Biology

#12

PhD Project Title: Mechanisms involved in production and regulation of Extracellular Vesicles (EVs) in the human pathogenic fungus Cryptococcus

PhD Supervisor: Isabelle Mouyna

Laboratory Team name: RNA Biology of Fungal Pathogens

#13

PhD Project Title: Generative Deep learning model for Drug Design: From receptor pocket to molecules, modulations and screening

PhD Supervisor: Arnaud Blondel

Laboratory Team name: Structural Bioinformatics

#14

PhD Project Title: Beyond order: structure and function of flexible phage attachments

PhD Supervisor: Francesca Gubellini

Laboratory Team name: Biologie Cellulaire Structurale Intégrative

#15

PhD Project Title: Neurological consequences of pulmonary tuberculosis and its treatment

PhD Supervisor: Ludovic Tailleux

Laboratory Team name: Integrated Mycobacterial Pathogenomics

#16

PhD Project Title: Mechanotransduction at focal adhesions: impact of brain matrix rigidity on cytoskeletal organization of glial cells

PhD Supervisor: Sandrine Etienne-Manneville

Laboratory Team name: Cell Polarity, Migration and Cancer

#17

PhD Project Title: How do molecular motors find the way?

PhD Supervisor: Philippe Bastin

Laboratory Team name: Trypanosome Cell Biology

#18

PhD Project Title: Go with the flow: the impact of interactions between mobile genetic elements in bacterial adaptation

PhD Supervisor: Eduardo Rocha

Laboratory Team name: Microbial Evolutionary Genomics

#19

PhD Project Title: Understanding the role of ATRX in the de novo initiation of transcriptional and post-transcriptional gene silencing

PhD Supervisor: Eugene Gladyshev

Laboratory Team name: Molecular Genetics and Epigenetics

#20

PhD Project Title: CRISPR-mediated virus-virus interactions in archaea

PhD Supervisor: Mart Krupovic

Laboratory Team name: Cell Biology and Virology of Archaea Unit

#21

PhD Project Title: Signaling and regulatory network for host adaptation in leptospires

PhD Supervisor: Nadia Benaroudj

Laboratory Team name: Biology of Spirochetes

#22

PhD Project Title: Deciphering gene function in the fungal pathogen of humans *Candida albicans* through large-scale imaging of overexpression strains

PhD Supervisor: Christophe d'Enfert

Laboratory Team name: Fungal Biology and Pathogenicity

#23

PhD Project Title: Development of multi-stage mRNA vaccines for malaria

PhD Supervisor: Chetan Chitnis

Laboratory Team name: Malaria Parasite Biology and Vaccines

#24

PhD Project Title: Nuclear shape, chromatin topology and cellular quiescence in adult brain neural stem cells

PhD Supervisor: Laure Bally-Cuif

Laboratory Team name: Zebrafish Neurogenetics

#25

PhD Project Title: Understanding the long-term consequences of the fate of *Listeria monocytogenes*-infected cells

PhD Supervisor: Marc Lecuit

Laboratory Team name: Biology of Infection

#26

PhD Project Title: Exploring the dual role of CD98 in human erythropoiesis and *Plasmodium vivax* infection

PhD Supervisor: Sylvie Garcia

Laboratory Team name: Biology of *Plasmodium* Infection and Transmission

#27

PhD Project Title: Impact of Gut Microbiota on Epigenetic Inheritance of Fertility

PhD Supervisor: Germano Cecere

Laboratory Team name: Mechanisms of Epigenetic Inheritance

#28

PhD Project Title: Investigating the impact of Cellular Reprogramming on Cellular Senescence

PhD Supervisor: Han Li

Laboratory Team name: Cellular Plasticity in Age-related Pathologies

#29

PhD Project Title: Investigating the synthesis and evolution of the peptidoglycan cell wall in the Archaea

PhD Supervisor: Simonetta Gribaldo

Laboratory Team name: Evolutionary Biology of the Microbial Cell

#30

PhD Project Title: Flavivirus envelope protein dynamics studies by cryo electron microscopy

PhD Supervisor: Giovanna Barba Spaeth

Laboratory Team name: Structural Virology

#31

PhD Project Title: Mathematical mOdelS and Tracking of Infectious receptOr dyNamics

PhD Supervisor: Thibault Lagache

Laboratory Team name: Biological Image Analysis

#32

PhD Project Title: Exploring the role of MAIT cells in the pathogenesis of immune-mediated inflammatory disease

PhD Supervisor: Lars Rogge

Laboratory Team name: Immunoregulation

#33

PhD Project Title: Type V Pili as Interbacterial Adhesin Driving Community Assembly in Bacteroidia

PhD Supervisor: Jean-Marc Ghigo

Laboratory Team name: Genetics of Biofilms

#34

PhD Project Title: Role of IL-23 in modulating immune cell cytoskeleton and migration. Potential implication in the pathogenesis of chronic inflammatory diseases.

PhD Supervisor: Vincenzo Di Bartolo

Laboratory Team name: Immunoregulation

## **PPU Pasteur – Hearing Institute**

#1

PhD Project Title: Lateralization of auditory functions

PhD Supervisor: Jérémie Barral

Laboratory Team name: Neural Coding in the Auditory System

#2

PhD Project Title: Gene replacement and precision editing therapies for hearing and balance restoration

PhD Supervisor: Aziz El Amraoui

Laboratory Team name: Progressive Sensory Disorders, Pathophysiology and Therapy

#3

PhD Project Title: Can Spontaneous auditory Synaptic Activity Impact the Therapeutic Window of Gene Therapy? Lessons from Preclinical Models

PhD Supervisor: Saaïd Safieddine

Laboratory Team name: Technologies and Gene Therapy for Deafness

#4

PhD Project Title: Dynamics of prediction of time and content in the speech hierarchy

PhD Supervisor: Keith Doelling

Laboratory Team name: Human and Artificial Perception

#5

PhD Project Title: Restore Speech Audibility using Phoneme Enhancement for Hearing Implants

PhD Supervisor: Dorothée Arzounian

Laboratory Team name: Neural coding and neuroengineering of human speech functions

## PPU Pasteur – MD-PhD

These projects are also available to students who have a Master's degree from a French university



#1

PhD Project Title: Next-Generation Cancer Vaccines: Harnessing B- and T-Cell Immunity to Halt KSHV-induced malignancies

PhD Supervisor: Marija Backovic

Laboratory Team name: Structural Virology

#2

PhD Project Title: Molecular mechanisms underlying eye muscle physiopathology

PhD Supervisor: Glenda Comai

Laboratory Team name: Stem Cells And Development

#3

PhD Project Title: Malaria co-infections in children in sub-Saharan Africa

PhD Supervisor: Bich Tram Huynh

Laboratory Team name: Epidemiology and Modelling of Antibacterial Evasion

#4

PhD Project Title: Ventricular dysfunction in structural congenital heart defects

PhD Supervisor: Sigolène Meilhac

Laboratory Team name: Heart Morphogenesis (Imagine - Pasteur Unit)

#5

PhD Project Title: Study of kidney colonization by leptospires, its effect on the innate immune defense system, and testing of therapeutic host-directed strategies to prevent chronic renal leptospirosis

PhD Supervisor: Catherine Werts

Laboratory Team name: Biology and Genetics of Bacterial Cell Wall

## **PPU Pasteur – Emerging Infectious Diseases**

#1

PhD Project Title: Impact of human-driven disruption of ecosystems' equilibrium on the composition and diversity of the virome of arthropods in hot-spots of pathogens emergence

PhD Supervisor: Nolwenn Dheilly

Laboratory Team name: Pathogen Discovery Laboratory

#2

PhD Project Title: Paleophylogenomics of Pre-Contact Infectious Diseases in the Americas: Emergence and Spread through a One Health Perspective

PhD Supervisor: Nicolas Rascovan

Laboratory Team name: Microbial Paleogenomics

#3

PhD Project Title: Predicting gene networks underlying mosquito-virus compatibility

PhD Supervisor: Sarah Merklings

Laboratory Team name: Insect Infection & Immunity

#4

PhD Project Title: Phylogenomics of emerging non-cholera *Vibrio cholerae*

PhD Supervisor: François-Xavier Weill

Laboratory Team name: Enteric Bacterial Pathogens

## **PPU Pasteur – Antimicrobial Resistance (in collaboration with Oxford University)**

#1

PhD Project Title: Membrane dynamics and inhibition of lipoprotein modification enzyme Lgt in pathogenic bacteria

PhD Supervisor: Nienke Buddelmeijer

Laboratory Team name: Biology and Genetics of the Bacterial Cell Wall

## **PPU Pasteur – Research & Technology**

These projects are also available to students who have a Master's degree from a French university

#1

PhD Project Title: InDeep v2–driven conversion of peptide binders into drug-like small molecules at protein–protein interfaces: an FtsQ case study with NMR validation

PhD Supervisor 1: Olivier Sperandio. Laboratory Team name: Structural Bioinformatics.

PhD Supervisor 2: Iñaki Guijarro. Core facility: Biological NMR and HDX-MS

#2

PhD Project Title: Two photon stimulation in freely moving animals to understand the causal role of sleep reactivation in learning

PhD Supervisor 1: Brice Bathellier. Laboratory Team name: Hearing Institute - Neural Codes and Dynamics.

PhD Supervisor 2: Maia Brunstein. Core facility: Hearing Institute Bioimaging

#3

PhD Project Title: Developing next-generation mass spectrometry-based proteomics for diagnostics and discovery in inherited mitochondrial diseases

PhD Supervisor 1: Timothy Wai. Laboratory Team name: Mitochondrial Biology

PhD Supervisor 2: Mariette Matondo. Core facility: Mass Spectrometry for Biology



## PPU Imagine

Students will be in a laboratory of the Institut Imagine and will join Pasteur and the PPU for all the educational, social and follow-up activities



#1

PhD Project Title: An iNnovAtive EpigenoMe editing Approach to beta-hemoglobinopathies

PhD Supervisor: Annarita MICCIO

Laboratory Team name: Laboratory of Chromatin and gene regulation during development

#2

PhD Project Title: Evaluation of the oncogenic cooperation between KIT and FAS genes in Mastocytosis and identification of alternative FAS transcripts involved in mastocytosis pathophysiology using “targeted long reads sequencing”

PhD Supervisor: Leïla MAOUCHE CHRÉTIEN

Laboratory Team name: Laboratory of Molecular mechanisms of hematological disorders and therapeutic implications

#3

PhD Project Title: Dissecting the regulatory network of genes that escape X chromosome inactivation

PhD Supervisor: Agnese LODA

Laboratory Team name: Laboratory of Epigenetics and sex differences in development and disease (new research group coming in January 2026)

#4

PhD Project Title: Targeting PI3Kd: Mechanistic Insights into Immune Dysregulation and Therapeutic Modulation

PhD Supervisor: Sven KRACKER

Laboratory Team name: Laboratory of Lymphocyte activation and susceptibility to EBV – Human genetics of infectious diseases

#5

PhD Project Title: Disentangling the human genetic determinants of long COVID using innovative and cutting-edge approaches to analyze whole exome/genome sequencing data

PhD Supervisor: Aurélie COBAT

Laboratory Team name: Human genetics of infectious diseases: complex predisposition

#6

PhD Project Title: Functions of Reelin in cortical astrocyte development

PhD Supervisor: Pierre BILLUARD

Laboratory Team name: Genetics and development of the cerebral cortex

#7

PhD Project Title: Molecular and cellular bases of a new neurodevelopmental disorder with impaired cerebellar development using human cellular models and zebrafish

PhD Supervisor: Vincent CANTAGREL

Laboratory Team name: Developmental Brain Disorders – Translational Research in Neurological Diseases

#8

PhD Project Title: Somatic mosaicism and clonal dynamics in the human cerebral cortex

PhD Supervisor: Sara BIZZOTTO

Laboratory Team name: Somatic mosaicism in neurodevelopment and disease

#9

PhD Project Title: Mechanisms underlying MYo-inositol-Dependent Dysregulation of GUT Metabolism in rare and common diseases

PhD Supervisor: Marianna PARLATO

Laboratory Team name: Immunology – Tissue Immunity in homeostasis and Disease

#10

PhD Project Title: Characterization of Osteogenesis imperfecta type V and Type VI: common and specific features

PhD Supervisor: Corinne COLLET

Laboratory Team name: Molecular and physiopathological bases of osteochondrodysplasia

#11

PhD Project Title: Deciphering New Molecular Mechanisms and Developing Therapeutic Approaches for Craniosynostoses using Zebrafish models

PhD Supervisor: Emilie DAMBROISE

Laboratory Team name: Embryology and genetics of malformations

#12

PhD Project Title: Monogenic etiologies of myasthenia gravis

PhD Supervisor: Paul BASTARD

Laboratory Team name: Human genetics of infectious diseases: monogenic predisposition

#13

PhD Project Title: Elucidating molecular mechanisms linked to TDP-43 pathological spreading

PhD Supervisor: Sorana CIURA

Laboratory Team name: Mechanisms and therapy of genetic brain diseases

#14

PhD Project Title: Understanding Darier disease using integrative mRNA sequencing and (Phosphor)proteomics to guide therapeutic repurposing

PhD Supervisor: Alain HOVNANIAN

Laboratory Team name: Genetic skin diseases: from disease mechanism to therapy

#15

PhD Project Title: Genetics of autoimmune hepatitis: highlight the mTORC1 pathway

PhD Supervisor: Aude MAGERUS

Laboratory Team name: Immunogenetics of pediatric autoimmune diseases

#16

PhD Project Title: Exploring somatic mutation–associated immune mechanisms shared by chronic autoimmunity and lymphoid malignancy: a study in refractory celiac disease

PhD Supervisor: Anaïs LEVESCOT

Laboratory Team name: Hereditary kidney diseases

**APPLY**