

## LIST OF PROJECTS PPU 2024



### PPU Pasteur – classic ([apply](#))

#1

PhD Project Title: Microbiota-additives interaction mapping and mechanisms for personalized nutrition in the healthy and diseased populations

PhD Supervisor: Benoit Chassaing

Laboratory Team name: Microbiome-Host Interactions

#2

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

#3

PhD Project Title: Coordination of nuclear and cytoplasmic RNA quality control mechanisms in Cryptococcus neoformans

PhD Supervisor: Cosmin Saveanu

Laboratory Team name: RNA Biology of Fungal Pathogens

#4

PhD Project Title: Characterization of streamlined envelope stress response mechanisms in non-model diderm bacteria

PhD Supervisor: Christophe BELOIN

Laboratory Team name: Génétique des Biofilms

#5

PhD Project Title: Contribution of gene-environment to common human diseases

PhD Supervisor: Hugues Aschard

Laboratory Team name: Statistical Genetics Unit

#6

PhD Project Title: Deciphering the impact of the telomere and telomerase on antigenic variation in African trypanosomes

PhD Supervisor: Lucy GLOVER

Laboratory Team name: TMB

#7

PhD Project Title: Molecular basis of cranial myofibre regeneration: insights from genetic and transcriptomic approaches

PhD Supervisor: GLENDA COMAI

Laboratory Team name: CSD - TAJBAKSHH

#8

PhD Project Title: Toxins from E. coli pathobionts, intestinal colonization, and cancer

PhD Supervisor: Amel Mettouchi

Laboratory Team name: Toxines Bacteriennes

#9

PhD Project Title: Evolution of cell growth and division in archaea with a cell wall

PhD Supervisor: Simonetta Gribaldo

Laboratory Team name: Evolutionary Biology of the Microbial Cell

#10

PhD Project Title: Understanding the molecular mechanisms of the divisome-elongasome transition in Mycobacteriales

PhD Supervisor: ANNE MARIE WEHENKEL

Laboratory Team name: Bacterial Cell Cycle Mechanisms

#11

PhD Project Title: Host Immunity, Plasmodium and Pathogens co Infections

PhD Supervisor: Bich Tram Huynh

Laboratory Team name: Epidemiology and Modelling of Antibacterial Evasion

#12

PhD Project Title: Targeting of mitochondrial structure to combat neuromuscular mitochondrial disease

PhD Supervisor: Timothy Wai

Laboratory Team name: Mitochondrial Biology Unit

#13

PhD Project Title: Analysis of developmental speed in Drosophila

PhD Supervisor: Francois Schweisguth

Laboratory Team name: 4D

#14

PhD Project Title: Phage Transduction powered by Diversity Generating Retroelements:  
Experimental study and biotechnological tool development

PhD Supervisor: Raphael Laurenceau

Laboratory Team name: Synthetic Biology

#15

PhD Project Title: Combining Intravital and Electron Microscopy to image Plasmodium parasite passage across cellular barriers

PhD Supervisor: Rogerio Amino

Laboratory Team name: Malaria Infection & Immunity

#16

PhD Project Title: Role of a human-specific gene in schizophrenia

PhD Supervisor: Uwe MASKOS

Laboratory Team name: Neurobiologie intégrative des systèmes cholinergiques

#17

PhD Project Title: Characterization of Legionella Diversity through Metabarcoding and Direct Sequencing for Ecological and Diagnostic Insights

PhD Supervisor: Laura GOMEZ

Laboratory Team name: BBI

#18

PhD Project Title: Dissecting mucus-mediated immunity and the influence of biological sex in the bladder

PhD Supervisor: Molly Ingersoll

Laboratory Team name: Mucosal Inflammation and Immunity

#19

PhD Project Title: Neuroinflammation-induced neuron-glia crosstalk via tunneling nanotubes in neurodevelopment and neurodegeneration

PhD Supervisor: Chiara Zurzolo

Laboratory Team name: UTRAF

#20

PhD Project Title: Uncovering the evolutionary dynamics behind defense islands

PhD Supervisor: Aude Bernheim

Laboratory Team name: Molecular Diversity of Microbes

#21

PhD Project Title: Identifying the mechanisms underlying the link between hearing loss and dementia

PhD Supervisor: Boris Gourevitch

Laboratory Team name: Institut de l'Audition

#22

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

PhD Supervisor: Keith Doelling

Laboratory Team name: Sequences in Natural and Artificial Perception

#23

PhD Project Title: Leveraging phylogenetic and structural information for the functional study of bacterial effector proteins

PhD Supervisor: Agathe Subtil

Laboratory Team name: Cell biology of microbial infection

#24

PhD Project Title: Protein-Protein Interaction of the Vaccine virus by Cross-Linking Mass Spectrometry

PhD Supervisor: Martial Rey

Laboratory Team name: Mass Spectrometry for Biology

#25

PhD Project Title: Deciphering how Shigella subverts the host cell to damage the bacterial containing vacuole

PhD Supervisor: Jost Enninga

Laboratory Team name: Dynamics of host-pathogen interactions

#26

PhD Project Title: Cellular and molecular underpinnings of mechanical feedback in embryonic self-organization

PhD Supervisor: Jerome Gros

Laboratory Team name: Dynamic Regulation of Morphogenesis

#27

PhD Project Title: Origin of compartmentalization in eukaryotic genomes

PhD Supervisor: Romain Koszul

Laboratory Team name: Spatial regulation of genomes

#28

PhD Project Title: Investigating Mitochondrial-ER Contact Sites (MERCs) during Legionella Infection

PhD Supervisor: Pedro Escoll

Laboratory Team name: BBI

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

#1

PhD Project Title: Deciphering the Mechanism of Bacterial Nutrient Entry Using Multidisciplinary Experimental and In Silico Approaches

PhD Supervisor: Nadia Izadi-Pruneyre

Laboratory Team name: Bacterial Transmembrane Systems

#2

PhD Project Title: Unlocking the Secrets of DNA Methylation: Targeting MBD Proteins with Chemical Probes

PhD Supervisor: Paola Arimondo

Laboratory Team name: Epigenetic Chemical Biology

## **PPU Pasteur – Emerging Infectious Diseases ([apply](#))**

#1

PhD Project Title: Transmission of tick-borne encephalitis virus via milk : characterization of mechanisms and risk-factorspi

PhD Supervisor: Valérie CHOUMET

Laboratory Team name: Environnement and Infectious Risks

#2

PhD Project Title: Diversity, Evolution and host Adaptation in Leptospira

PhD Supervisor: Mathieu PICARDEAU

Laboratory Team name: Biology of Spirochetes unit

#3

PhD Project Title: Development of a multivalent mRNA vaccine for Plasmodium vivax malaria that targets multiple stages

PhD Supervisor: Chetan Chitnis

Laboratory Team name: Malaria Parasite Biology and Vaccines

## **PPU Pasteur – Participatory Science ([apply](#))**

#1

PhD Project Title: Study of Leptospira interrogans subversion of neutrophil functions

PhD Supervisor: Catherine WERTS

Laboratory Team name: BGPB

#2

PhD Project Title: Mutational signatures of endometriosis

PhD Supervisor: Camille Berthelot

Laboratory Team name: Comparative Functional Genomics

#3

PhD Project Title: Gene augmentation therapy for restoring hearing and auditory processing in preclinical models of human deafness.

PhD Supervisor: Saaid Safieddine

Laboratory Team name: UA06, Institut de l'Audition

## **PPU Pasteur – Research & Technology ([apply](#))**

#1

PhD Project Title: Human stem-cell derived inner ear organoids as a model for therapeutic development

PhD Supervisor 1: Raphael Eournay. Laboratory Team name 1: Institut de l'Audition / Plasticité des circuits auditifs centraux disorders.

PhD Supervisor 2: Maia Brunstein. Laboratory Team name 2: Plateforme de bioimagerie de l'IdA

#2

PhD Project Title: Bacterial preservation: genomic and phenotypic stability

PhD Supervisor 1: Fay Betsou. Laboratory Team name 1: CRBIP.

PhD Supervisor 2: Didier Mazel. Laboratory Team name 2: Bacterial Genome Plasticity

#3

PhD Project Title: Identification of novel biomarker immune response signatures and their correlation with human population-based systems immunology data: Integrated Immune Response Signature Assay

PhD Supervisor 1: Milena Hasan. Laboratory Team name 1: Single Cell Biomarkers UTechS

PhD Supervisor 2: Darragh Duffy. Laboratory Team name 2: Translational Immunology

#4

PhD Project Title: Development of New Phenotypic Screens and Target Identification Technologies to Isolate Novel Broad-Spectrum Antivirals Against Orthoflaviviruses

PhD Supervisor 1: Fabrice Agou. Laboratory Team name 1: Chemogenomic and Biological Screening Core facility

PhD Supervisor 2: Nolwenn Jouvenet. Laboratory Team name 2: Virus sensing and signaling

## **PPU Pasteur & Imagine ([apply](#))**

#1

PhD Project Title: Patterning of asymmetric heart morphogenesis

PhD Supervisor: Sigolène Meilhac

Laboratory Team name: Imagine-Institut Pasteur Unit of Heart Morphogenesis



## **PPU Imagine ([apply](#))**

#1

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

PhD Supervisor: Emilie Dambroise

Laboratory Team name: Genetics of developmental disorders

#2

PhD Project Title: Deciphering genetic etiology of predisposition to Whipple's disease

PhD Supervisor: Jacinta Bustamante

Laboratory Team name: Human Genetics of Infectious Diseases

#3

PhD Project Title: An epigenomic ID for a better diagnosis

PhD Supervisor: Maud de Dieuleveult

Laboratory Team name: Pathophysiological bases of skeletal dysplasias

#4

PhD Project Title: Inborn errors of the alternative NF- $\kappa$ B pathway

PhD Supervisor: Guillaume Vogt

Laboratory Team name: Human Genetics of Infectious diseases

#5

PhD Project Title: Telomere maintenance mechanisms in Ewing sarcoma and Anaplastic Large Cell Lymphoma: from early steps of transformation to tumor formation.

PhD Supervisor: Patrick Revy

Laboratory Team name: Genome Dynamics in the Immune System

#6

PhD Project Title: Investigation of abnormal PI3Kdelta signalling associated with inborn error of immunity

PhD Supervisor: Sven Kracker

Laboratory Team name: Lymphocyte activation and susceptibility to EBV

#7

PhD Project Title: Role of FUS in metabolic deregulation

PhD Supervisor: Edor Kabashi

Laboratory Team name: Translational Research in Neurological Diseases

#8

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 cellular and molecular mechanisms of hematological disorders and therapeutic implication

#9

PhD Project Title: Integrative mRNA sequencing, proteomics and glycoproteomics to guide therapeutic repurposing in Darier disease

PhD Supervisor: Alain Hovnanian

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

#10

PhD Project Title: Understanding the Physiopathology of Developmental Cerebellar Defects using human cellular Models and zebrafish

PhD Supervisor: Vincent Cantagrel

Laboratory Team name: Developmental Brain Disorders

#11

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

PhD Supervisor: Aude Magerus

Laboratory Team name: Immunogenetics of pediatric autoimmune diseases

#12

PhD Project Title: New insights into the pathophysiological mechanisms underlying HLH through the follow up of a gene therapy trial for UND13D-deficiency

PhD Supervisor: Fernando Sepulveda

Laboratory Team name: Molecular basis of altered immune homeostasis

#13

PhD Project Title: Advancing Treatment Approaches for Coeliac Disease-Associated Lymphoma

PhD Supervisor: Georgia Malamut

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

#14

PhD Project Title: Mechanisms underlying EBV-driven NK/T lymphoproliferations

PhD Supervisor: Sylvain Latour

Laboratory Team name: Lymphocyte activation and susceptibility to EBV

#15

PhD Project Title: Human genetics of HHV8-driven diseases

PhD Supervisor: Vivien Béziat

Laboratory Team name: Human genetics of Infectious Diseases

#16

PhD Project Title: Role of tRNA modifications in Galloway-Mowat syndrome

PhD Supervisor: Géraldine Mollet

Laboratory Team name: Laboratory of hereditary kidney diseases