

# The 3<sup>rd</sup> France-Japan symposium on HIV/AIDS and infectious diseases basic research

## ANRS-MIE AC41 and Institut Pasteur

October 28<sup>th</sup>, 29<sup>th</sup> and 30<sup>th</sup> 2024

Institut Pasteur, 205 Rue de Vaugirard - 75015 Paris

### PROGRAM

#### Day 1: October 28<sup>th</sup> 2024 Institut Pasteur - Amphitheater Duclaux

From 8h30

WELCOME COFFEE

#### INTRODUCTION

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9h00-9h10

Victor Appay (*INSERM, University of Bordeaux*) & Ai Kawana-Tachikawa (*National Institute of Infectious Diseases, Tokyo*)

#### Opening words

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9h10-9h30

(5 min each)

Michaela Müller-Trutwin (*Institut Pasteur, Paris*) & Tetsuro Matano (*National Institute of Infectious Diseases, Tokyo*)

- **ANRS-MIE & International Affairs Department of Institut Pasteur**  
Mr. Hervé Raoul, Deputy Director & Ms. Odette Tomescu-Hatto, Director.
- **Ministry of Higher Education and Research:**  
Mr. Nacer Boubenna, Scientific Director, Head of the Biology Department of the SSRI - Research Strategy and Innovation.
- **Ministry for Europe and Foreign Affairs:**  
Mr. Emmanuel Lebrun-Damiens, Director of Cultural, Educational, Scientific, and University Diplomacy.
- **Embassy of Japan in France:**  
Mr. Yoshio Ando, Deputy Chief of Mission, Minister, Embassy of Japan in France.

#### Session 1 - Viral evolution and epidemiological modeling

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(pp.2-6 in the electronic booklet)

9h30-11h00

(15min Presentation + 2-3min Q/A each)

Chairs: Etienne Simon-Loriere (*Institut Pasteur, Paris*) & Akatsuki Saito (*Department of Veterinary Medicine, University of Miyazaki*)

- **Simon Cauchemez** (*Institut Pasteur, Paris*) :  
Using mathematical models to analyze complex epidemic data and gain key insights on epidemic dynamics and control
- **Kei Sato** (*Institute of Medical Science, The University of Tokyo*) :  
Evolution of SARS-CoV-2: Now and Then
- **Karim Majzoub** (*IGMM-CNRS, University of Montpellier*) :  
Deltavirus Infection in human and animal hosts
- **So Nakagawa** (*Tokai University School of Medicine, Kanagawa*) :  
Comprehensive RNA virus detection from metatranscriptome data using NeoRdRp
- **Akatsuki Saito** (*Department of Veterinary Medicine, University of Miyazaki*) :  
Species tropism of Orthohepadnavirus

**11h00-11h30**

**COFFEE BREAK** (*All breaks will take place in the modules room*)

## Session 2 - Virus entry & restriction factors

(pp.7-12)

**11h30-13h00**

(*15min Presentation + 2-3min Q/A each*)

**Chairs: H el ene Dutartre** (*CIRI, ENS, Lyon*) & **Kenzo Tokunaga** (*National Institute of Infectious Diseases, Tokyo*)

- **Koichi Watashi** (*National Institute of Infectious Diseases, Tokyo*) :  
Mode of hepatitis B and D virus interaction with its host entry receptor
- **Olivier Schwartz** (*Institut Pasteur, Paris*) :  
Entry and replication of human seasonal coronavirus HKU1
- **Saori Suzuki** (*Graduate School of Medicine, University of Hokkaido*) :  
NEDD4-binding protein 1 suppresses HBV replication by degrading HBV mRNAs
- **Delphine Muriaux** (*IRIM, CNRS, University of Montpellier*) :  
Role of tetraspanins in hiv-1 and htlv-1 biofilms formation and transmission
- **Terumasa Ikeda** (*Joint Research Center for Human Retrovirus Infection, University of Kumamoto*) :  
Interaction between APOBEC3 family proteins and HIV-1 in myeloid cell line THP-1

**13h00-14h30**

**LUNCH**

## Session 3 - Anti-viral immune responses – Part I

(pp.13-17)

**14h30-16h00**

(*15min Presentation + 2-3min Q/A each*)

**Chairs: Nabila Seddiki** (*IDMIT-CEA, Universit  Paris-Saclay*) & **Masafumi Takiguchi** (*Joint Research Center for Human Retrovirus Infection, University of Kumamoto*)

- **Takayuki Chikata** (*Joint Research Center for Human Retrovirus Infection, University of Kumamoto*) :  
Co-evolution of HIV-1 and HLA-C\*14-restricted T cells
- **Pierre Tonnerre** (*Saint-Louis Research Institute, Paris*) :  
Immune landscape in functional cure of chronic HBV
- **Masanori Isogawa** (*National Institute of Infectious Diseases, Tokyo*) :  
Distinct localization of cytotoxic and cytokine-producing CD8<sup>+</sup> T cells in the liver during OX40-mediated virus inactivation
- **Takushi Nomura** (*Joint Research Center for Human Retrovirus Infection, University of Kumamoto*) :  
Analysis of T-cell responses associated with age-dependent severity in a SARS-CoV-2 infected mouse model

**Session 4 - Virus integration & tumorigenesis****16h30-18h30** (15min Presentation + 2-3min Q/A each)**Chairs: David Durantel** (*CIRI, Lyon*) & **Toshiki Watanabe** (*St. Marianna School of Medicine, Kanagawa*)

- **Monsef Benkirane** (*CNRS, University of Montpellier*) :  
Biology of unintegrated HIV-1 DNA: role in viral transcription and escape from innate immune sensing
- **Takeshi Noda/ Yuiko Muramoto** (*Institute for Life and Medical Sciences, University of Kyoto*) :  
Exploring virus replication mechanisms with advanced technologies: cryo-EM and human respiratory organoids
- **Jocelyn Turpin** (*IVPC, INRAE, Lyon*) :  
Retroviruses : integration and expansion in the genomics era
- **Shinichi Machida** (*National Center for Global Health and Medicine, Tokyo*) :  
Structural study of Hepatitis B virus x protein (HBx)
- **Joachim Lupberger** (*INSERM, University of Strasbourg*) :  
Epigenetic viral imprinting and cancer risk during chronic viral hepatitis
- **Franck Mortreux** (*LBMC, ENS de Lyon*) :  
HTLV-1-induced uncoupling of transcription and splicing in the context of 3D chromatin organization

**18h30-20h30****WINE & CHEESE*****End of the day***

**Day 2: October 29<sup>th</sup> 2024**  
**Institut Pasteur - Amphiteater Duclaux**

**From 8h30**

**WELCOME**

**Session 5 - Viral pathogenesis & innate immunity**

(pp.25-31)

**9h00-11h00** (15min Presentation + 2-3min Q/A each)

**Chairs: Philippe Benaroch** (*Institut Curie, Paris*) & **Toru Okamoto** (*Juntendo University, Tokyo*)

- **Sébastien Nisole** (*IRIM, CNRS, University of Montpellier*) :  
Why is Usutu virus the only mosquito-borne flavivirus to resist ISG20 exonuclease?
- **Toru Okamoto** (*Juntendo University, Tokyo*) :  
Selective TLR ligands stimulation through mosquito saliva contributes *in vivo* pathogenicity of mosquito borne Flaviviruses
- **Marie-Line Andreola** (*CNRS, University of Bordeaux*) :  
Regulation of the replication of human pathogenic RNA viruses
- **Naofumi Takahashi** (*Joint Research Center for Human Retrovirus Infection, University of Kumamoto*) :  
Monocyte and macrophage subsets in HIV-1 infection
- **Chloé Journo** (*CIRI, ENS de Lyon*) :  
A multi-omics approach to highlight specific molecular properties of neglected endemic HTLV-1 subtypes
- **Yonatan Ganor** (*Institut Cochin, Paris*) :  
Mucosal viruses: from pathophysiology of transmission to neuro-immune prevention

**11h00-11h30**

**COFFEE BREAK**

**Session 6 - Anti-viral immune responses - Part II**

(pp.32-37)

**11h30-13h00** (15min Presentation + 2-3min Q/A each)

**Chairs: Michaela Müller-Trutwin** (*Institut Pasteur, Paris*) & **Ai Kawana-Tachikawa** (*National Institute of Infectious Diseases, Tokyo*)

- **Mariangela Cavarelli** (*CEA, Paris*) :  
Unraveling mucosal immune dynamics in chronic SIV infection: implications for HIV persistence and viral rebound
- **Kenji Sugata** (*Joint Research Center for Human Retrovirus Infection, University of Kumamoto*) :  
Integrated single cell analysis of HTLV-1 specific CD8 T cells in peripheral blood (PB) and cerebrospinal fluid (CSF) from HAM/TSP patients
- **Hugo Mouquet** (*Institut Pasteur, Paris*) :  
Human Broadly Neutralizing Antiviral Antibodies
- **Hiroyuki Yamamoto** (*National Institute of Infectious Diseases, Tokyo*) :  
SIV-neutralizing antibody induction: *extrinsic vs. intrinsic* phenotypes of immune perturbation
- **Shiki Takamura** (*RIKEN Center for Integrative Medical Science, Kanagawa*) :  
Overcoming the short-lived nature of tissue-resident memory CD8<sup>+</sup> T cells in the lung

**13h00-14h30**

**LUNCH**

## Session 7 - Young investigators session

(pp.38-48)

14h30-16h15 (8min Presentation + 2-3min Q/A each)

**Chairs: Anastassia Komarova** (Institut Pasteur, Paris) & **Takamasa Ueno** (Joint Research Center for Human Retrovirus Infection, University of Kumamoto)

- **Lisa Bertrand** (Center for Integrative Genomics, University of Lausanne) :  
Ribosome profiling and immunopeptidomics reveal tens of novel conserved HIV-1 open reading frames encoding T cell antigens
- **Keiko Yasuda** (Nagoya City University Graduate School of Medical Sciences, Aichi) :  
MEX3B, an RNA-binding protein, strongly suppresses HIV-1 viral replication depending on its RNA-binding ability
- **Luis Romero Martin** (Institut Pasteur, Paris) :  
Unraveling the relationship between NK cell polyfunctional capacity and HIV/SIV post-treatment control
- **Omnia Reda** (Joint Research Center for Human Retrovirus Infection, University of Kumamoto) :  
HIV-Tocky system to visualize proviral expression dynamics
- **Florian Dubois** (Institut Pasteur, Paris) :  
Biological effect of cytokine specific auto-antibodies on immune responses in a healthy population
- **Kaho Shionoya** (National Institute of Infectious Diseases, Tokyo University of Science) :  
Structural regulation of NTCP receptor function on hepatitis B virus entry
- **Pierre-Grégoire Coulon** (Institut Cochin, Paris) :  
GAS7 F-BAR Protein Regulates Macrophage Constitutive Antiviral Defense Through Macropinocytosis
- **Mitsukaze Watanabe** (National Institute of Infectious Diseases, Tokyo) :  
Characterization of a novel broadly neutralizing antibody against flaviviruses
- **Morgane Picard** (INSERM, University of Paris) :  
T follicular helper cells in SIV-infected rhesus macaques
- **Takuto Nogimori** (National Institutes of Biomedical Innovation, Health and Nutrition, Osaka) :  
Comparative efficacy of mRNA and self-amplifying RNA vaccine platforms in immune response induction

**16h15-16h45**

**COFFEE BREAK**

## Session 8 - New hopes: Vaccines & therapies

(pp.49-54)

16h45-18h15 (15min Presentation + 2-3min Q/A each)

**Chairs: Anne-Sophie Beignon** (CNRS,CEA, Paris) & **Tetsuro Matano** (National Institute of Infectious Diseases, Tokyo)

- **Anavaj Sakuntabhai** (Institut Pasteur, Paris) :  
Dengue T cell vaccine development
- **Claire Monge** (LBTI, CNRS, Lyon) :  
Mucosal vaccination and delivery systems
- **Aki Tanabe** (National Institute of Infectious Diseases, Tokyo) :  
Development of an antibody-drug conjugate (ADC) targeting CADM1 in adult T-cell leukemia/lymphoma cells
- **Laura Papagno** (INSERM, CNRS, University of Bordeaux) :  
Distinct adjuvanticity for *de novo* or recall CD8+ T cell responses
- **Takuya Yamamoto** (National Institutes of Biomedical Innovation, Health and Nutrition, Osaka) :  
The challenge establishing an HIV cure strategy by using the NHP model

## **Closing session**

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- **Institut Pasteur:**  
Prof. Yasmine Belkaid, Director.

***18h30 : end of the day***

***Evening            Speakers' & chairs' dinner***

# Day 3: October 30<sup>th</sup> 2024

## Institut Pasteur - Meeting rooms modules

**9h00**

**WELCOME**

### One to one discussions (in 6 parallel sessions)

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9h00-9h30

9h30-10h00

10h00-10h30

10h30-11h00

11h00-11h30

11h30-12h00

**COFFEE BREAK** provided during one to one discussions

**12h30**

**SPEAKERS & CHAIRS LUNCH**

### LAB VISITS FOR YOUNG RESEARCHERS

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14h30-15h15

15h15-16h00

16h00-16h45

### Scientific & Organizing Committee

**France** : Victor Appay<sup>1,2</sup>, Anne-Sophie Beignon<sup>3,4</sup>, David Durantel<sup>1,5</sup>, H  l  ne Dutartre<sup>1,5</sup>, Jerome Estaquier<sup>1,6</sup>, Michaela M  ller-Trutwin<sup>6,7</sup>, Asier Saez-Cirion<sup>6,7</sup>, Anavaj Sakuntabhai<sup>7,8</sup>, Nabila Seddiki<sup>4</sup>.

<sup>1</sup> INSERM, <sup>2</sup> Universit   de Bordeaux, <sup>3</sup> CNRS, <sup>4</sup> CEA, <sup>5</sup> Universit   de Lyon, <sup>6</sup> Universit   Paris Cit  , <sup>7</sup> Institut Pasteur, <sup>8</sup> Institut Pasteur Japan Office

**Japan** : Tetsuro Matano<sup>1</sup>, Masafumi Takiguchi<sup>2</sup>, Ai Kawana-Tachikawa<sup>1</sup>, Koichi Watashi<sup>1</sup>, Hiroyuki Yamamoto<sup>1</sup>, Takuya Yamamoto<sup>3</sup>, Akatsuki Saito<sup>4</sup>.

<sup>1</sup> NIID, <sup>2</sup> Kumamoto University, <sup>3</sup> NIBIOHN, <sup>4</sup> University of Miyazaki.

**ANRS Emerging infectious diseases (ANRS MIE)** : Guia Carrara, Dahlia Chebbah, C  cile Peltekian, Yazdan Yazdanpanah.

**Institut Pasteur** : Nathalie Alazard, Mathilde Boisserin, Magali Lago, Odette Tomescu-Hatto.

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