7th Workshop on Virus Dynamics
October 14th -16th, 2025 - Bordeaux, France

BORDEAUX

Tuesday, October 14 2025	
Session 1: Chronic viral infections (chair XXX)	
09:00-09:20	*Welcome and opening*
09:20-10:00	**Alan Perelson (Los Alamos Laboratory, USA)** Multiscale Modeling of Hepatitis B and C Infection and Treatment
10:00-10:20	**Rob de Boer (Utrecht University, Netherland)** Immune Responses May Make HIV-1 Therapeutic Interfering Particles Less Effective
10:20-10:40	**Amar Kumar Garg (Helmholtz-Zentrum, Braunschweig, Germany)** Induction of multiple broadly neutralizing antibody lineages is modulated by precursor B cell composition and antibody epitope masking
10:40-11:00	**Bharadwaj Vemparala (IISC, Bangalore, India)** Early treatment initiation preserves memory CD8 T cells and improves the likelihood of post-treatment control of HIV infection
11:00-11:20	**Lucero Rodriguez Rodriguez (Fred Hutch, Seattle, USA)** Differential longevity and potency of four broadly neutralizing antibodies elicited distinct viral load kinetics and resistance patterns in people with chronic HIV
11:20-11:50	*Coffee break*
Session 2: Viral dynamics in respiratory infections (1/2) (chair: XXX)	
11:50-12:10	**Keisuke Ejima (Nanyang Technological University, Singapore)** Patient Characteristics Modify the Antiviral Efficacy of SARS-CoV-2 Therapies: Insights from Meta-Analysis and Real-World Viral Load Data
12:10-12:30	**Shadi Esmaeili-Wellman (Fred Hutch, Seattle, USA)** Clinical trial simulation suggests PCR underestimates molnupiravir's true potency against SARS-CoV-2
12:30-12:50	**Katherine Owens (Fred Hutch, Seattle, USA)** SARS-CoV-2 viral load kinetic profiles correspond with observed intra-host viral diversity and mutation rates during infections in immunocompetent individuals
12:50-14:00	*Lunch break*

Session 3: Methodology & Statistics (chair: XXX)	
14:00-14:40	**France Mentré (INSERM, Paris, France)** From Exploration to Decision: Modeling for Optimal Study Design
14:40-15:00	**Boris Hejblum (Inserm Bordeaux Population health, France)** RISE: Two-Stage Rank-Based Identification of High-Dimensional Surrogate Markers Applied to Vaccinology
15:00-15:20	**Lisa Crépin (Inserm Bordeaux Population health, France)** Regularization estimation in high-dimensional mechanistic models
15:20-15:40	**Avidan Neumann (University of Augsburg, Germany)** Skin microbiome dynamics as biomarker for severe radiodermatitis in breast cancer patients and for treatment response in atopic dermatitis
15:40-16:00	**Tanja Laske (University Hamburg, Germany)** Granger-causality analysis reveals defective viral genomes with antiviral potential from longitudinal infection data
16:00-16:30	*Coffee break*
Session 4: Immune and viral response to vaccination (1/2) (chair: XXX)	
16:30-16:50	**Jose Borghans (University of Utrecht, Netherland)** Dynamic maintenance of tissue-resident memory T cells
16:50-17:10	**Adrien Mitard (Inserm, Paris, France)** Exposure history shapes SARS-CoV-2 viral dynamics in Non-Human Primates and provides insights into correlates of protection against infection and transmission
17:10-17:30	**Marie Alexandre (John Hopkins, USA, Inserm Bordeaux Population Health, France)** Joint mechanistic modeling of viral and antibody responses to vaccines in Non-Human Primates to quantify SARS-CoV-2 mechanistic correlate of protection
17:30-17:50	**Jane Heffernan (York University, Canada)** COVID-19 vaccination and waning immunity
17:50-18:10	**Beatrix Haddock (Fred Hutch, Seattle USA)** Modeling broadly neutralizing antibody neutralization curves for biomarker discovery

Poster Session with Wine & Cheese

Wednesday, October 15, 2025	
Session 5: Viral dynamics in respiratory infections (2/2) (chair: XXX)	
09:00-09:40	**Olivier Schwartz (Institut Pasteur, Paris, France)** Entry and kinetics of replication of human seasonal coronavirus HKU1: mechanisms and impact of temperature
09:40-10:00	**Jérémie Guedj (Inserm, Paris, France)** Viral dynamics of the Respiratory Syncytial Virus during experimental human challenge infections : insights for transmission and treatment
10:00-10:20	**Laura Liao (MSD, USA)** Viral Dynamics Modeling: Helping Translate Human Challenge Study Results to Late-Stage in RSV
10:20-10:40	**Ke Li (Yale School of Public Health, USA)** Relating In Vivo Respiratory Syncytial Virus Infection Kinetics to Host Infectiousness in Different Age Groups
10:40-11:10	*Coffee break*

Session 6: Vaccine development (chair: XXX)	
11:10-11:50	**Jeff Sachs (MSD, USA)** Vaccines Versus Viruses (and Bacteria) - Modeling Helps Humans Win the Battle
11:50-12:10	**Hirst Cora (Emory University Atlanta, USA)** Quantitative constraints limit the generation of a universal influenza vaccine
12:10-12:30	**Riley Drake (Emory University Atlanta, USA)** Modelling Antibody Dependent Enhancement: Implications for Vaccine Design
12:30-14:00	*Lunch*
Session 7: Immune and viral response to vaccination (2/2) (chair: XXX)	
14:00-14:40	**Véronique Godot (Vaccine Research Institute, Paris, France)** Broad and durable antibody responses following CD40.Pan.CoV vaccination: Biological insights leading to modelling approachesin preclinical studies
14:40-15:00	**Jair Andrade (University of Cambridge, UK)** Assessing the impact of vaccination against dengue viruses using long-term antibody measurements
15:00-15:20	**Rituparna Banerjee (University of British Columbia, Vancouver, Canada)** How Vaccines Shape B Cell Evolution: A Modeling Approach
15:20-15:40	**Andreas Handel (University of Georgia, USA)** Modeling the impact of high-dose versus standard-dose influenza vaccines on antibody breadth and vaccine efficacy
15:40-16:10	*Break*
Sessions 8: Viral dynamics and evolution (Chair: XXX)	
16:10-16:50	**Best paper Student Award – Nils Gubela (Freie Universitet Berlin, Germany)** SARS-CoV-2 evolution on a dynamic immune landscape
16:50-17:10	**Samuel Alizon (College de France, CNRS Paris, France)** Inferring virus dynamics from sequence genomic data
17:10-17:30	**Rolland Regoes (ETH Zurich, Switzerland)** Experimental epidemiology with viruses: toward assessing phylodynamics
19:30	*Gala diner*

Thursday, October 16, 2025	
Session 9: Viral dynamics in cell systems (Chair: XXX)	
09:00-09:40	**Udo Reichl (Max Planck Institute, Magdeburg, Germany)** Cell Culture-based Influenza Virus Production: Challenges, Analytics and Mathematical Modeling
09:40-10:00	**Cailan Jeynes-Smith (The University of Tennessee, USA)** Exploring IFN-Œ≥'s Role in Alveolar Macrophage Depletion During Influenza A Virus Infection
10:00-10:20	**Yusuke Asai (Japan Institute for Health Security, Japan)** Traveling Waves in a Cell-to-Cell Transmission Model
10:20-10:40	**Melanie Moses (The University of New Mexico, Albuquerque, USA)** Modeling Spatial Spread of SARS-CoV-2 infection in Lung
10:40-11:00	**Pascal Lukas (Friedrich-Alexander-Universitet Erlangen, Germany)** Determining viral spread and innate immune dynamics in human respiratory epithelium
11:00-11:30	*Coffee break*

Session 10: Modeling viral load and transmission (chair: XXX)	
11:30-11:50	**Nathanaël Hoze (Inserm, Paris, France)**
	A multi-scale modelling framework to assess the relationship between SARS-CoV-2 viral load and transmission in household studies
11:50-12:10	**Somsen Elizabeth (Emory University Atlanta, USA)**
	Quantifying viral transmissibility and pandemic potential from experimental transmission studies
12:10-12:30	**Daniel Coombs (University of British Columbia, Canada)**
	Time and Space in Models of Nascent Viral Infection
12:30-12:50	**Assefa Woldegerima Woldegebriel (York University, Canada)**
	Impact of infection routes on within-host MPXV dynamics: insights from a modeling study
12:50-14:00	*Lunch break*
Sessions 11: Epi models (Chair: XXX)	
14:00-14:40	**Christophe Fraser (Oxford University, Pandemic Sciences Institute, UK)**
	Innovative network and digital approaches to inference of key epidemiological and clinical parameters
14:40-15:00	**Narendra Dixit (Indian Institute of Science, Bangalore, India)**
	Prevalence of asymptomatic infections: a window to the basal immunity to SARS-CoV-2
15:00-15:20	**Max Von Kleist (Freie Universitet Berlin, Germany)**
	Modelling the dynamic Interplay between SARS-CoV-2 Infection, Immunity and Evolution
15:20-16:00	*Closing remarks – Vote for 2027*
	End of the conference
	Coffee Available
16:30-18:00	Young researchers mentoring session Q&A – Elissa Schwartz (email to come)