

PROGRAM AT A GLANCE

SUNDAY, SEPTEMBER 18, 2022

15:00 – 15:10 WELCOME ADDRESS

Dr David Durantel, INSERM (France) & Dr H el ene Strick-Marchand, Institut Pasteur (France)

15:10 – 15:50 DISTINGUISHED AWARD IN HBV RESEARCH LECTURE

15:10 – 15:20 **Introduction of 2022's Distinguished Award in Hepatitis B Research** by Pr Massimo Levrero, Lyon University, Hospices Civils de Lyon, Inserm, CRCL (France)

15:20 – 15:50 **Curing HBV: from molecular virology to clinical translation**
Pr Fabien Zoulim, Lyon University, Hospices Civils de Lyon, Inserm, CRCL (France)

15:50 – 16:50 TOP OF THE ART LECTURE

15:50 – 15:55 **Introduction of 2022's Top of the Art Lecture** by Pr Stephan Urban, University of Heidelberg - DZIF (Germany)

15:55 – 16:35 **The Yin and Yang of hepatitis C and hepatitis B virus**
Pr Ralf Bartenschlager, Albert-Lasker award winner; University of Heidelberg - DZIF (Germany)

16:35 – 16:50 **Q&A**

16:50 – 17:00 WELCOME ADDRESS

Pr Yazdan Yazdanpanah, Director of ANRS-MIE (France)

SUNDAY, SEPTEMBER 18, 2022

17:00 – 19:00 SESSION I: NOVEL TECHNOLOGIES AND MODEL SYSTEMS

Co-chairs: Maura Dandri (Germany) & Robert Schwartz (USA)

17:00 – 17:30 **From hepatocytes to liver organoids: Novel cell culture systems for a better understanding of HBV biology and beyond**
Dr Viet Loan Dao Thi, University of Heidelberg (Germany)

17:30 – 19:00 Oral Presentations

17:30 – 17:45 **Hepatitis B Virus infection of primary and pluripotent stem cell derived multicellular hepatic spheroids reveals complex intracellular and intercellular interactions and host responses**
Pr Robert Schwartz (USA)

17:45 – 18:00 **An RNA-based cell culture system to study hepatitis B virus replication, evaluate antivirals, and characterize HBV sequence variants at unprecedented scale**
Dr William Schneider (USA)

18:00 – 18:15 **Generation of a fluorescent HDV reporter replicon using the split GFP system**
Dr Zhenfeng Zhang (Germany) – *Virtual presentation*

18:15 – 18:30 **Transgenic rhesus macaques expressing human Na⁺ taurocholate co-transporting polypeptide for the study of chronic hepatitis B infection**
Dr Lauren Rust (USA)

18:30 – 18:45 **Deciphering immune responses to chronic HBV in a novel HLA haplotype matched immunocompetent humanized mouse model**
Dr Priyanka Fernandes (France)

18:45 – 19:00 **Direct quantification of HBx mRNA in human liver biopsies**
Dr Aleksei Suslov (Switzerland)

19:00 – 21:00 WELCOME RECEPTION

MONDAY, SEPTEMBER 19, 2022

8:30 – 10:30 SESSION II: VIRAL ENTRY AND EPISOME BIOGENESIS

Co-chairs: Koichi Watashi (Japan) & Barbara Testoni (France)

8:30 – 9:00 **DNA repair concepts and cccDNA biogenesis**
Pr Alexander Ploss (USA)9:00 – 10:30 **Oral Presentations**9:00 – 9:15 **Diverse roles of farnesylated L-HDAg on establishment and maintenance of HDV replication**
Dr Benno Zehnder (Germany)9:15 – 9:30 **Cryo-EM structure of NTCP and its implication in the HBV/HDV entry**
Dr Koichi Watashi (Japan)9:30 – 9:45 **Deciphering the molecular mechanism of HBV rcDNA deproteination during cccDNA biosynthesis**
Dr Hu Zhang (USA) – *Virtual presentation*9:45 – 10:00 **HIRA histone chaperone supports hepatitis B virus minichromosome establishment and transcriptional activity in infected hepatocytes**
Dr Barbara Testoni (France)10:00 – 10:15 **A major HBV spliced RNA, SP1, encoding a novel core protein (HBcSP1), is involved in efficient viral infection**
Dr Chen-Yen Chung (Taiwan) – *Virtual presentation*10:15 – 10:30 **Role of cellular compartments and viral capsid in Hepatitis B virus entry**
Dr Megan McGinley (USA)

MONDAY, SEPTEMBER 19, 2022

10:30 – 11:00 COFFEE**11:00 – 13:00** SESSION III: FROM THE VIRAL GENOME TO VIRAL PARTICLE EGRESS

Co-chairs: Patrick Soussan (France) & Aleem Siddiqui (USA)

11:00 – 11:30 **Structural and regulatory functions of HBc - an update**
Dr Jianming Hu (USA)11:30 – 13:00 **Oral Presentations**11:30 – 11:45 **Initiation of HDV genome RNA synthesis**
Dr Susannah Stephenson-Tsoris (USA)11:45 – 12:00 **SMC5/6 complex binds to specific regions of HBV cccDNA to suppress its transcription**
Dr Qiong Zhao (USA) – *Virtual presentation*12:00 – 12:15 **Hepatitis B virus core protein is not required for cccDNA transcriptional regulation**
Dr Yuchen Xia (China)12:15 – 12:30 **Predicted structure of the hepatitis B virus polymerase reveals an ancient conserved protein fold**
Pr John Tavis (USA)12:30 – 12:45 **Structural insights into the role of N6-methyladenosine modified 5'epsilon in pgRNA packaging and strand transfer during reverse transcription**
Dr Raphael Haslecker (USA)12:45 – 13:00 **A mature DHBV core encapsidates a spool of dsDNA**
Dr Nora Gibes (USA) – *Virtual presentation***13:00 – 14:00** LUNCH BREAK

MONDAY, SEPTEMBER 19, 2022

14:00 – 16:00 SESSION IV: VIRAL - HOST CROSSTALK

Co-chairs: Jane McKeating (UK) & Yuchen Xia (China)

14:00 – 14:30 **Hypoxia in viral hepatitis, applications in therapeutics?**
Pr Jane McKeating (UK)14:30 – 16:00 **Oral Presentations**14:30 – 14:45 **Autophagy receptor NDP52 detects hepatitis B virus infection and mediates an anti-viral response**
Dr Yu Wei (China/France)14:45 – 15:00 **RXR agonists downregulate FOXM-1 mediated Kinesin motor KIF4 expression which controls HBV/HDV internalization through the regulation of surface NTCP localization in human hepatocytes**
Dr Sameh A. Gad (Japan)15:00 – 15:15 **Characterization of Janus kinase JAK1 as an HDV-related host factor and antiviral target**
Dr Margaux Heuschkel (France)15:15 – 15:30 **Stability of covalently closed circular DNA during mitosis of Hepatitis B Virus infected cells**
Dr Henrik Zhang (Australia)15:30 – 15:45 **Senataxin restricts hepatitis B virus gene expression**
Dr Andoni Gomez-Moreno (Spain)15:45 – 16:00 **The profile of HBV transcripts in liver fine-needle aspirate single-cell data reveals changes in transcriptional programs of both host and virus under antiviral treatment**
Dr Adam J. Gehring (Canada)

16:00 – 16:30 COFFEE

16:30 – 17:30 KEYNOTE LECTURE 1

Introduced by David Durantel

16:30 – 17:30 **Communalities in disease progression of viral hepatitis, NASH, ASH, and hepatocellular carcinoma?**
Pr Mathias Heikenwalder, University of Heidelberg - DKFZ (Germany)

17:30 – 19:30 POSTER SESSION I & EXHIBITS

TUESDAY, SEPTEMBER 20, 2022

8:30 – 10:30 SESSION V: INNATE IMMUNE RESPONSES

Co-chairs: Sonja Buschow (Netherlands) & Luca Guidotti (Italy)

8:30 – 9:00 **Distinctive features of liver-resident NK cells and ILC subsets**
Dr Giuseppe Sciume (Italy)9:00 – 10:30 **Oral Presentations**9:00 – 9:15 **Inhibition of HBV transcription by interferon stimulated gene 12 (ISG12)**
Dr Xiaoyang Yu (USA) – *Virtual presentation*9:15 – 9:30 **PML Inhibits HBV cccDNA activity through SMC5/6-dependent sumoylation**
Dr James Ahodantin (USA)9:30 – 9:45 **Natural Killer cell repertoire and functional activity in HIV/HBV co-infection and implications for therapy**
Dr Kelly Da Costa (UK)9:45 – 10:00 **Functional cure in chronic hepatitis B is associated with altered intra-hepatic natural killer cell phenotype with high expression of activation receptors**
Dr Sriram Narayanan (Singapore)
– *Virtual presentation*10:00 – 10:15 **Earliest Indicators of HBV-Associated Flares are Only Detectable Within the Liver**
Dr Conan Chua (Canada)10:15 – 10:30 **Pathogenesis of Pregnancy-Related Increases in Hepatitis B Disease Activity**
Dr Keisuke Fukutomi (USA)

10:30 – 11:00 COFFEE

TUESDAY, SEPTEMBER 20, 2022

11:00 – 13:00 SESSION VI: ADAPTIVE IMMUNE RESPONSES

Co-chairs: Mala Maini (UK) & Nina Le Bert (Singapore)

11:00 – 11:30 T Cell immunometabolism

Dr Paola Fiscaro (Italy)

11:30 – 13:00 Oral Presentations

11:30 – 11:45 **Generation and characterization of an HBsAg-specific B cell receptor (BCR) transgenic mouse**
Dr Cristian Beccaria (Italy)

11:45 – 12:00 **Differential changes in global and antigen-specific B cell frequencies and function associate with the outcome of HBV nucleos(t)ide analog treatment withdrawal**
Dr Sabela Lens (UK)

12:00 – 12:15 **OX40 and 4-1BB stimulation reinvigorates intrahepatically-primed dysfunctional HBV-specific CD8+ T cells in mice**
Dr Francesco Andreatta (Italy)

12:15 – 12:30 **Bacterial LPS drives myeloid instruction of tissue-resident CD8+T-cells with anti-viral and anti-tumour potential**
Dr Laura Pallett (UK) – *Virtual presentation*

12:30 – 12:45 **Enolase represents a metabolic checkpoint controlling the differential exhaustion of virus-specific CD8 T cells in HBV and HCV**
Dr Frances Winkler (Germany)

12:45 – 13:00 **Diverging mechanisms of HBV-specific CD8+ T-cell dysfunction in chronic infection**
Dr Kathrin Heim (Germany)

13:00 – 14:00 LUNCH BREAK**14:00 – 16:00 POSTER SESSION II & EXHIBITS****16:00 – 16:30 COFFEE**

TUESDAY, SEPTEMBER 20, 2022

16:30 – 18:30 SESSION VII: VIRAL PATHOGENESIS, INTEGRATION AND HEPATOCELLULAR CARCINOMA

Co-chairs: Massimo Levrero (France) & Michael Bouchard (USA)

16:30 – 17:00 Genetics of HCC

Pr Jessica Zucman-Rossi (France)

17:00 – 18:30 Oral Presentations

17:00 – 17:15 **HBV infection alters host extrachromosomal circular DNA (eccDNA) profile in human hepatocytes**
Dr Andrea Jurado (USA)

17:15 – 17:30 **Dual role of neddylation for transcription of hepatitis B virus RNAs from cccDNA and production of viral surface antigen from integrants**
Dr Bingqian Qu (Germany)

17:30 – 17:45 **HBV DNA integration and three-dimensional genome organization in hepatocellular carcinoma**
Dr Joao Diogo Dias (France)

17:45 – 18:00 **Hepatitis B virus DNA integration and liver cancer – who's in the driver seat?**
Dr Thomas Tu (Australia)

18:00 – 18:15 **Spontaneous development of HCC in mice expressing all HBV transcripts proves an oncogenic effect of HBx and is STAT3-dependent**
Dr Svenja Schuehle (Germany)

18:15 – 18:30 **Multiplex ddPCR assay reveals that integrated hepatitis B virus DNA maintains surface antigen production during antivirals**
Dr Tanner Grudde (USA)

18:30 – 18:45 UPDATES BY THE HEPATITIS B FOUNDATION (HBV, USA)

Dr. Chari Cohen

18:45 – 19:00 UPDATES ON ICE-HBV

ICE-HBV representative

WEDNESDAY, SEPTEMBER 21, 2022

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| 8:30 – 10:45 | SESSION VIII: PRECLINICAL TARGETS & THERAPIES FOR CHB AND CHD Co-chairs: Ulrike Protzer (Germany) & Jake Liang (USA) |
| 8:30 – 9:00 | What makes a host factor a good target for HTA development and antiviral therapies Dr Eloï Verrier (France) |
| 9:00 – 10:45 | Oral Presentations |
| 9:00 – 9:15 | HBV RNaseH inhibitors can decrease capsid accumulation and may induce an interferon response in HBV replicating cells Dr Daniel Bradley (USA) |
| 9:15 – 9:30 | The TLR8 agonist Selgantolimod modulates Kupffer cell differentiation status and indirectly impairs HBV entry into hepatocytes via an IL-6-dependent mechanism Dr Armando Andres Roca Suarez (France) |
| 9:30 – 9:45 | Novel Ultra-Potent Capsid Assembly Modulators In A Mouse Model Of Hepatitis B Virus Infection Pr Luca Guidotti (Italy) |
| 9:45 – 10:00 | Combination treatment with AB-101, a small-molecule PD-L1 Inhibitor, and an HBV-targeting GalNAc-siRNA increases HBV-specific immune responses in a chronic Hepatitis B infection mouse model Dr Emily Thi (USA) |
| 10:00 – 10:15 | Bepirovirsen activates multiple innate immune cell types and induces TLR8-dependent cytokine responses Dr Jared Delahaye (USA) |
| 10:15 – 10:30 | HBs-directed T cell engager antibodies foster efficient recruitment of T cells and lead to strong reduction of HBV infection in livers of humanized mice Dr Annika Volmari (Germany) |
| 10:30 – 10:45 | Strong decline of intrahepatic HDV markers and signs of liver inflammation after 48 weeks of treatment with Bulevirtide in chronic hepatitis D patients: Combined intrahepatic results from the clinical trials MYR203 and MYR301 Dr Lena Allweiss (Germany) |

WEDNESDAY, SEPTEMBER 21, 2022

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| 10:45 – 11:15 | COFFEE |
| 11:15 – 12:15 | KEYNOTE LECTURE 2 Introduced by H el ene Strick-Marchand |
| 11:15 – 12:15 | Control of viral reservoirs: insights from nonhuman primate models Pr Michaela M uller-Trutwin, Institut Pasteur (France) |
| 12:15 – 13:30 | LUNCH BREAK |
| 12:15 – 13:30 | HBV YOUNG FELLOW NETWORKING MEETING Odeon Room |
| 13:30 – 15:15 | SESSION IX: GENOTYPES, CO-EVOLUTION, CO-INFECTIONS Co-chairs: Anna Kramvis (South Africa) & Peter Reville (Australia) |
| 13:30 – 14:00 | Updates on HDV basic science research Dr. Julie Lucifora, Inserm (France) |
| 14:00 – 15:30 | Oral Presentations |
| 14:00 – 14:15 | HBV genotypic differences in primary hepatocytes and humanized mice Dr Lefteris Michailidis (USA) |
| 14:15 – 14:30 | Molecular clones of genetically distinct hepatitis B virus genotypes reveal distinct host and drug treatment responses Dr Yongzhen Liu (USA) – <i>Virtual presentation</i> |
| 14:30 – 14:45 | Effects of HDV-LHDAg expression and prenylation on replication of HDV and delta-like agents Dr Gnimah Eva Gnouamozi (Germany) |
| 14:45 – 15:00 | HDV-mediated inhibition of HBV in a superinfection mouse model: the role of type I Interferon Dr Beatriz Pacin Ruiz (Spain) |
| 15:00 – 15:15 | Comprehensive analysis of the different phases of chronic Hepatitis B infection Dr Michael Basic (Germany) |
| 15:15 – 15:45 | COFFEE |

WEDNESDAY, SEPTEMBER 21, 2022

15:45 – 18:45 SYMPOSIUM ON DRUG DISCOVERY

Co-chairs: Raymond Schinazi (USA) & Fabien Zoulim (France)

15:45 – 18:45 Oral Presentations

15:45 – 16:15 **Antiviral Drug Discovery in an Academic Setting**
Pr Johan Neyts, Rega Institute (Belgium)

16:15 – 16:45 **Claudin-1: from virus-host interactions to treatment of fibrosis and cancer**
Pr Thomas Baumert, Universite de Strasbourg (France)

16:45 – 17:15 **Restoring or replacing the immune response to HBV**
Pr Mala Maini, UCL London (UK)

17:15 – 17:45 **Combination therapies against HBV - a clinician perspective**
Pr Harry Janssen, Erasmus Medical Center (Netherlands)

17:45 – 18:15 **Stop-Nuc: a stand alone strategy or possibility to combine?**
Pr Maurizia Brunetto, University of Pisa (Italy)

18:15 – 18:45 **Roundtable with all speakers**
Animated by Raymond Schinazi & Fabien Zoulim

18:45 – 18:50 FAREWELL**18:50 – 19:00 HBV 2023 PRESENTATION****19:30 – 1:00 GALA DINNER**

THURSDAY, SEPTEMBER 22, 2022

7:30 – 9:30 HBV COMMUNITY FORUM, ORGANIZED BY:**7:30 – 8:00 NETWORKING BREAKFAST****8:00 – 9:30 Oral Presentations**

8:00 – 8:05 **Welcome Remarks**
Fabien Zoulim

8:05 – 8:20 **Critical gaps in hepatitis B prevention, screening, care and treatment in the EU**
Tarik Asselah, Marc Bourliere & Philippa Matthews

8:20 – 8:35 **The latest in hepatitis B cure research**
John Tavis, Thomas Tu

8:35 – 8:45 **Q&A Discussion**

8:45 – 9:15 **Patient panel session: the lived experience of hepatitis B**

9:15 – 9:25 **Patient Panel Q&A**

9:25 – 9:30 **Closing Remarks**
Chari Cohen

THURSDAY, SEPTEMBER 22, 2022

10:00 – 12:30 ICE-HBV SYMPOSIUM: HBV CURE: PROMISES AND CHALLENGES OF IMMUNOTHERAPIES



Moderators: Mala Maini (UK) & Antonio Bertolotti (Singapore)

10:00 – 11:20 Oral Presentations

- 10:00 – 10:05 **Opening Remarks**
Mala Maini (UK) & Antonio Bertolotti (Singapore)
- 10:05 – 10:30 **Rationale for new approaches to therapeutic vaccination in HBV**
Ulrike Protzer (Germany)
- 10:30 – 10:55 **Antibody therapy in HBV**
David Corti (Vir Biotechnology)
- 10:55 – 11:20 **Soluble TCR therapy in HBV**
Praveen Singh (Immunocore)

11:20 – 11:40 COFFEE BREAK

11:40 – 12:30 Oral Presentations

- 11:40 – 11:55 **Debate: What parameters should guide the detection and timing of immunotherapies in HBV?**
The case for virological parameters,
Barbara Testoni (France)
The case for immunological parameters,
Adam Gehring (Canada)
The case for clinical parameters,
Upkar Gill (UK)
- 11:55 – 12:25 **Panel Discussion**
Mala Maini (UK); Antonio Bertolotti (Singapore);
Barbara Testoni (France); Adam Gehring (Canada);
Upkar Gil (UK); Simon Fletcher (Gilead) and
Andrew Vaillant (Replicor)
- 12:25 – 12:30 **Closing Remarks**
Mala Maini (UK) & Antonio Bertolotti (Singapore)