

Program International HBV meeting 2024 – Chicago

Wednesday, September 11, 2024

08:00 – 12:00 **Emerging Researchers Workshop***

08:00 – 09:00 **Registration, breakfast, networking and icebreaker challenge**

09:00 – 09:10 **Welcome**

Timothy Block, PhD, Co-Founder and Immediate Past President, Hepatitis B Foundation and Baruch S. Blumberg Institute

09:10 – 09:30 **Priority research questions for HBV, HDV, HCC – report from 2023 workshop**

Chari Cohen, President, Hepatitis B Foundation; Professor, Baruch S. Blumberg Institute
Thomas Tu, Associate Professor, Westmead Institute; Co-Founder and Director, Hepatitis B Voices Australia and HepBCommunity.org

09:30 – 11:00 **Choose your Path panel session: Career pathways in hepatitis B, D, and liver cancer**

Moderator: Thomas Tu

Panelists: Antonio Bertoletti, MD, Professor, Duke-NUS Medical School; Alexander Koenig, PhD, Scientific Investigator, GSK; Florian Lempp, PhD, MSc, Senior Research Director, Humabs BioMed, Vir Biotechnology; Ulrike Protzer, MD, Professor and Chair, Virology, Institute of Virology, Technical University of Munich; Josh Radke, PhD, Program Officer, Drug Discovery and Preclinical Research Branch, Division of AIDS, NIAID; H el ene Strick-Marchand, PhD, Group Leader Research Scientist, Institut Pasteur; Liudi Tang, PhD, Assistant Professor, Baruch S. Blumberg Institute

11:00 – 12:00 **Interactive Roundtable Discussions**

Career reflections (15 minutes)

Journal club (30 minutes discussion, 15 minutes report out)

Table leads: Lena Alweiss (Table 1), Jochen Wetengel (Table 2), Molly Woodson (Table 3), Barbara Testoni (Table 4), Margaret Litlejohn (Table 5), Nina LaBert (Table 6), Gregor Ebert (Table 7), Eloi Verrier (Table 8), Holly Walden (Table 9), Lefteris Michailidis (Table 10)

12:00 – 13:00 **Lunch and networking for Emerging Researchers Workshop**

13:00 **Conclusion**

Chari Cohen and Thomas Tu

**Please note the Emerging Researchers Workshop is a ticketed event.*

13:30 – 15:00 **HBF and ICE-HBV Community Forum**

13:30 – 13:40 **Welcome and Opening Remarks**

13:40 – 14:15 **Expert Panel - Gaps, challenges, and progress towards HBV elimination in the U.S.**

National Strategies - Hep B United: A national coalition for eliminating hepatitis B

Frank Hood, MPS, Hepatitis B Foundation

State Strategies - Addressing Hepatitis B in Michigan

Anao Zhao, PhD, University of Michigan School of Social Work

State Strategies - Addressing Hepatitis B in Illinois

Jeffrey Erdman, Associated Executive Director, Illinois Public Health Association

Local Strategies - Addressing hepatitis B in Chicago

Oyu Tumurtuya, PharmD, Mongolian Community Health Network

Local Strategies - Addressing hepatitis B in Chicago

Jing Zhang, PhD, Midwest Asian Health Association

14:15 – 14:35 Patient Panel - Lived Experience of Hepatitis B

Wendy (CA), Bright (MD), Kim (MN)

14:35 – 14:55 Q&A

Moderator: Thomas Tu, PhD, Westmead Institute for Medical Research

14:55 – 15:00 Closing Remarks

John Tavis, PhD, Professor and Institute Director, Saint Louis University School of Medicine;
Chairperson, ICE-HBV

16:00 – 16:30

Welcome address by co-organizers

*Co-organizers: Prof. Matteo Iannacone, San Raffaele Scientific Institute & University and
Prof. Alexander Ploss, Princeton University*

16:30 – 17:00

Distinguished Award in Hepatitis B Research Lecture - Professor Wenhui Li, PhD, National Institute of Biological Science, Beijing, China

17:00 – 18:00

Keynote Lecture 1: Clifford Brangwynne, PhD

18:00 – 20:00

Welcome Reception

Thursday, September 12, 2024

08:30 – 09:00

Introduction I: Molecular Virology

09:00 – 10:00

Session I: Molecular Virology I

9:00 – 9:10: **Unveiling the Structure of Double-Stranded DNA in Hepatitis B Virus through Cryo-EM**
Joseph CY Wang

9:10 – 9:15 Q&A

9:15 – 9:25 **HDAg co-opts host RNA Pol II machinery for HDV replication: a proteomics approach**
Susannah Stephenson-Tsoris

9:25 – 9:30 Q&A

9:30 – 9:40 **Characterizing the molecular mechanism of hepatitis B virus cccDNA loss following mitosis**

Gaihong Zhao

9:40 – 9:45 Q&A

9:45 – 9:55 **Precision-cut liver slices as a pre-clinical model for the evaluation of host-targeting agents against hepatitis B virus and hepatitis delta virus infection**

Barbara Testoni

9:55 – 10:00 Q&A

10:00 – 10:30 **Coffee Break**

10:30 – 11:30 **Keynote Lecture 2: Mohammed AlQuraishi, PhD**

11:30 – 13:00 **Session II: Molecular Virology II**

11:30 – 11:40 **Multistep mechanism of the hepatitis B virus preS1 domain to establish high affinity NTCP binding**

Chisa Kobayashi

11:40 – 11:45 Q&A

11:45 – 11:55 **Identification of host cell factors associated with HBV virions and subviral particles**

Shangqing Yang

11:55 – 12:00 Q&A

12:00 – 12:10 **A nucleosome switch primes Hepatitis B Virus infection**

Robert Schwartz

12:10 – 12:15 Q&A

12:15 – 12:25 **HBV intracellular HBeAg/p22 binding protein mitochondrial C1QBP inhibits viral replication by reducing nucleocapsid formation and impeding DP-rcDNA nuclear import**

Xiao Peng

12:25 – 12:30 Q&A

12:30 – 12:40 **Investigating HBV DNA integration and its role in genomic instability through HBx expression**

Thomas Tu

12:40 – 12:45 Q&A

12:45 – 12:55 **A novel recombinant HBV-based selection system allows for a systematic genomic knock-out screening and the identification of host factors involved in HBV infection**

Bo-Hung Liao

12:55 – 13:00 Q&A

13:00 – 14:00 **Lunch & Parexel Sponsored Symposium**

Turning molecules into medicines through a stepwise, strategic and collaborative approach.

The panel discussion will cover key aspects of drug development, including preclinical model selection, logical frameworks for target validation, clinical and regulatory issues related to combination therapy, patient perspectives, and the critical importance of early cross-functional collaboration and broad partnerships to accelerate progress toward achieving a functional cure.

Speakers:

- **Anne Kasmar, MD MSc, SVP, Global Therapeutic Head of Vaccines and Infectious Diseases, Parexel**

- Roger Inouye, MD, Senior Medical Director, Infectious Disease and Hep B, Parexel
- Christine Livingston, PhD, Scientific Director and Team Leader, Infectious Disease Research, GSK
- Chari Cohen, DrPH MPH, President, Hepatitis B Foundation
- Wendy Lo, Patient Advocate Speaker, Hepatitis Elimination and Liver Health
- Thomas Tu, PhD, Group Leader, Storr Liver Centre, Westmead Institute for Medical Research, Australia

14:00 – 14:30 Introduction II: Immunology

14:30 – 16:00 **Session III: Immunology/Pathogenesis I**

14:30 – 14:40 **Viral control and functional cure of chronic hepatitis B virus infection are associated with distinct HBV-specific T-cell populations**

Martin Feuerherd

14:40 – 14:45 Q&A

14:45 – 14:55 **CD4⁺T cells license Kupffer cells to produce IL-27 and revert the CD8⁺T cell dysfunction induced by hepatocellular priming**

Valentina Venzin

14:55 – 15:00 Q&A

15:00 – 15:10 **A liver immune rheostat limits T cell receptor signaling and impairs function of virus-specific CD8 T cells in chronic viral hepatitis**

Anna Fürst

15:10 – 15:15 Q&A

15:15 – 15:25 **Circulating CD8 T cells are sentinels for intrahepatic T cell responses during HBV infection**

Hannah Wintersteller

15:25 – 15:30 Q&A

15:30 – 15:40 **Highly activated intrahepatic HBV-specific resident-memory T and B cells correlated with acute-on-chronic liver failure**

Yang Cheng

15:40 – 15:45 Q&A

15:45 – 15:55 **Uptake and T Cell Stimulation by BJT-778-HBsAg Immune Complexes: Insights into Anti-HBs Monoclonal Antibody Function**

Adam Gehring

15:55 – 16:00 Q&A

16:00 – 16:30 **Coffee Break**

16:30 – 17:30 **Session IV: Immunology/Pathogenesis II**

16:30 – 16:40 A Mybl2-expressing CD8 T cell hepatic progenitor population fuels interferon induced protective HBV-specific CD8 T cell immunity during chronic infection

Vincent Steinbacher

16:40 – 16:45 Q&A

16:45 – 16:55 Maternal HBeAg by itself is sufficient to train fetal Kupffer cells to support HBV persistence after its mother-to-child transmission.

Qiqi Ning

16:55 – 17:00 Q&A

17:00 – 17:10 Distinct transcriptional landscapes of intrahepatic immune cells associated with differential HBV control across chronic HBV infection and functional cure

Elias Lattouf

17:10 – 17:15 Q&A

17:15 – 17:25 Distinct CD8 T cell immune profiles in people living with HBV and HIV/HBV co-infection

Anucha Preechanukul

17:25 – 17:30 Q&A

Friday, September 13, 2024

08:30 – 10:00 **Session V: Molecular Virology III**

8:30 – 8:40 Proteomic analysis of empty and pgRNA-containing capsids uncovers cellular proteins that regulate pgRNA packaging and HBV genome replication

Hui Liu

8:40 – 8:45 Q&A

8:45 – 8:55 Characterization of Hepatitis B infected cells which retain covalently closed circular DNA during liver turnover

Thomas Tu

8:55 – 9:00 Q&A

9:00 – 9:10 SLF2 undergoes phase separation in binding with supercoiled HBV DNA

Zihao Gao

9:10 – 9:15 Q&A

9:15 – 9:25 Characterization of polymerase delta deficiency on hepatitis B virus cccDNA biogenesis in vivo

Andoni Gomez

9:25 – 9:30 Q&A

9:30 – 9:40 **HDV RNAs are localized within nuclear speckles and HDV replication requires RNA polymerase II in HDV-infected primary human hepatocytes (PHH)**

Beatrice Ary

9:40 – 9:45 Q&A

9:45 – 9:55 **The feasibility of establishing a hamster model for HBV infection: in vitro evidence**

Hu Zhang

9:55 – 10:00 Q&A

10:00 – 10:30

Coffee Break supported by



10:30 – 11:30

Keynote Lecture 3: Bana Jabri, MD, PhD

11:30 – 12:45

Session VI: Immunology/Pathogenesis III

11:30 – 11:40 Spatial profiling of HBV and HDV infection in human liver samples

Maria Saez-Palma

11:40 – 11:45 Q&A

11:45 – 11:55 Modeling anti-retroviral therapy and liver inflammation in simian-HIV and HBV co-infected rhesus macaques

Sreya Biswas

11:55 – 12:00 Q&A

12:00 – 12:10 Small hepatitis delta antigen is a potential oncogenic factor in hepatocellular carcinoma (HCC)

Patrizia Farci

12:10 – 12:15 Q&A

12:15 – 12:25 Loss of Hepatitis B Virus HBeAg contributes to immune escape from CD8+ T cells directed against the core protein

Jörg Timm

12:25 – 12:30 Q&A

12:30 – 12:40 Novel ist-HBV Mouse Model and Insights of Nucleic Acid Therapy from the Model

Bo Peng

12:40 – 12:45 Q&A

12:45 – 14:00

Lunch

14:00 – 16:00

Session VII: Molecular Virology IV

14:00 – 14:10 An acidic cluster in HDAg mimicking the host histones nucleosome acidic patch is crucial for HDV replication

Massimo Levrero

14:10 – 14:15 Q&A

14:15 – 14:25 **Spatial transcriptomic mapping the HBV infected liver.**

Jane McKeating

14:25 – 14:30 Q&A

14:30 – 14:40 **Spatially resolved quantification of HBV and HDV from archival tissues using probe-based profiling**

Ricardo Ramirez

14:40 – 14:45 Q&A

14:45 – 14:55 **G-quadruplexes control hepatitis B virus replication by promoting cccDNA transcription and phase separation in hepatocytes**

Guillaume Giraud

14:55 – 15:00 Q&A

15:00 – 15:10 **RNA crosslinking stabilizes a CAM-bound capsid**

Nora Gibes

15:10 – 15:15 Q&A

15:15 – 15:25 **A role for 5'-3' exoribonuclease 1 to regulate dsRNA responsive innate immune effectors and to suppress HDV replication**

Senko Tsukuda

15:25 – 15:30 Q&A

15:30 – 15:40 **Structural basis for loss of viral receptor function of macaque-derived NTCP homologue**

Kaho Shionoya

15:40 – 15:45 Q&A

15:45 – 15:55 **Effects of membranes, the precore protein and autophagy on the assembly of HBV core particles**

Yu-Chen Chuang

15:55 – 16:00 Q&A

16:00 – 16:30

Coffee Break supported by



16:30 – 17:30

Session VIII: Molecular Virology V

16:30 – 16:40 **REP 2139 direct antiviral effect in 2D and 3D HDV infection models**

Massimo Levero

16:40 – 16:45 Q&A

16:45 – 16:55 **An RNA-Sensing and ADAR-Editing Based Reporter System to Study Hepatitis B Virus Infection**

Liudi Tang

16:55 – 17:00 Q&A

17:00 – 17:10 **Comparative analysis of intrinsic and induced interferon responses of HDV and Delta-Like Agents**

Eva Gnimah Gnouamozi

17:10 – 17:15 Q&A

17:15 – 17:25 **Comparative profiling of extrachromosomal circular DNAs (eccDNAs) in HBV-infected primary human hepatocytes and HBV-related hepatocellular carcinoma cell lines**

Andrea Jurado

17:25 – 17:30 Q&A

17:30 – 18:00 **Updates from the Hepatitis B Foundation**
Updates from ICE-HBV

18:00 – 19:00 Poster Session II

Saturday, September 14, 2024

08:30 – 10:00 **Session IX: Molecular Virology VI**

8:30 – 8:40 **Mechanistic studies of a first-in-class HBV cccDNA inhibitor in primary human hepatocytes**

Alfred Jiang

8:40 – 8:45 Q&A

8:45 – 8:55 **Characterization of COX6C as a proviral factor in HBV infection and its role in oxidative phosphorylation**

Lea Hansen-Palmus

8:55 – 9:00 Q&A

9:00 – 9:10 **An alphavirus replicon-based method to study hepatitis B virus core variants and drug resistance in high throughput**

Catherine Freije

9:10 – 9:15 Q&A

9:15 – 9:25 **Treatment with pegIFN α inhibits cell division mediated spread of HDV in a humanized mouse model supporting cell proliferation**

Tassilo Volz

9:25 – 9:30 Q&A

9:30 – 9:40 **Simian-tropic hepatitis B virus can infect simian liver chimeric mice**

Yongzhen Liu

9:40 – 9:45 Q&A

9:45 – 9:55 **Hepatitis B Virus capsid demonstrates a unique defense mechanism toward Capsid Assembly Modulators**

Caleb Valkner

9:55 – 10:00 Q&A

10:00 – 10:30 **Coffee Break**

10:30 – 11:30 **TWiV Podcast: Richard Condit, PhD**

11:30 – 12:00 Introduction III: Therapeutics

12:00 – 13:00 **Session X: Therapeutics I**

12:00 – 12:10 HBV core protein (HBc) modulates HBV RNA biogenesis and can be targeted in this function by HBc assembly modulator.

Julien Pronost

12:10 – 12:15 Q&A

12:15 – 12:25 Pre-clinical development of CRMA-1001, an epigenetic editor for the treatment of chronic hepatitis B

Yesseinia Anglero-Rodriguez

12:25 – 12:30 Q&A

12:30 – 12:40 Combination treatment with siRNA and therapeutic vaccine induced sustained modification of HBV-specific humoral and cellular immunity in CHB patients.

Antonio Bertoletti

12:40 – 12:45 Q&A

12:45 – 12:55 Functional evaluation and mode of action of APY1a novel non-nucleoside drug inhibiting Hepatitis Delta virus.

Walid Elorch

12:55 – 13:00 Q&A

13:00 – 14:00 **Lunch**

14:00 – 16:00 **Session XI: Therapeutics II**

14:00 – 14:10 A novel oral NTCP inhibitor HH-1270 exhibits favorable properties as a clinical candidate for the treatment of HBV/HDV infection

Yang Liu

14:10 – 14:15 Q&A

14:15 – 14:25 Bulevirtide in combination with pegylated interferon alfa-2a shows a sustained off-treatment response in the liver

Lena Allweiss

14:25 – 14:30 Q&A

14:30 – 14:40 Development of a multiplex gene editing therapy with paired guide RNAs for the cure of chronic hepatitis B

Ryo Takeuchi

14:40 – 14:45 Q&A

14:45 – 14:55 **Adenine Base editing of Hepatitis B surface antigen potently inhibits HDV**

Anuj Kumar

14:55 – 15:00 Q&A

15:00 – 15:10 **Development of a pan-genotypic vector, MVA-HBVac, for targeting chronic hepatitis B via therapeutic vaccination**

Anna D. Kosinska

15:10 – 15:15 Q&A

15:15 – 15:25 **Selective harnessing of adaptive NK cells for functional HBV cure**

Dimitra Peppas

15:25 – 15:30 Q&A

15:30 – 15:40 **Inhibitors targeting mTOR complex selectively inhibit cccDNA-driven HBV transcription**

Benno Zehnder

15:40 – 15:45 Q&A

15:45 – 15:55 **Discovery of bimodal HBV ribonuclease H and capsid assembly inhibitors**

Daniel Bradley

15:55 – 16:00 Q&A

16:00 – 16:30 **Coffee Break**

16:30 – 17:30 **Session XII: Therapeutics III**

16:30 – 16:40 **In vitro phenotyping of bepirovirsen antiviral activity against clinically identified baseline and treatment-emergent HBV variants**

Alexander Koenig

16:40 – 16:45 Q&A

16:45 – 16:55 **Development of newly-identified small molecules, cccDNA modulators, that specifically activate interferon-related signals and inhibit HBV replication**

Yutaka Furutani

16:55 – 17:00 Q&A

17:00 – 17:10 **PAPD5/7 inhibition reduces poly-A tail length of secreted HBV mRNA**

Andrew Esteves

17:10 – 17:15 Q&A

17:15 – 17:25 **Cryo-EM structural analysis of BAY41-4109 effects on HBV capsids purified from human hepatoma cells**

Shiv Kumar

17:25 – 17:30 Q&A

17:30 - 18:00 **Farewell and 2025 International HBV Meeting Presentation**

18:00 – 19:30 **Break**

19:30 – 21:30 **Gala Dinner**

Sunday, September 15, 2024

09:30 – 12:30 **ICE-HBV Symposium**

Interferons for Hepatitis B and D: their continuing contributions to cure strategies

9:30 Welcome/Opening Remarks: Massimo Levrero, Cancer Research Center of Lyon (CRCL) and Lyon Hepatology Institute (IHU LYON), Lyon France; and Nina Le Bert, Duke-NUS Medical School, Singapore

9:35 The Clinical Perspective on Interferon Therapy for Hepatitis B and D - Jordan Feld (on-site), University of Toronto, Canada

9:55 Antiviral Activities of Class I and III interferons: A Virological Perspective - Barbara Testoni (on-site), Cancer Research Center of Lyon (CRCL) and Lyon Hepatology Institute (IHU LYON), Lyon, France

10:15 Immuno-Modulatory Activities of Class I/III IFNs in Hepatitis: Impact on Innate and Adaptive Responses - Adam Gehring (on-site), Toronto Centre for Liver Disease, Canada

10:35 Innovative Approaches: Pre-Clinical Development of a Bi-Specific (CD40-IFN α) Fusion Protein for HBV and HDV - Kara Carter (on-site), Evotec/Avifa, France

10:55 Coffee Break (Supported by Yecuris)

11:15 Partnering with Interferons to boost functional cure: ongoing clinical trials - Florian Lempp, Vir Biotechnology, and Simon Fletcher, Gilead Sciences

12:00 Panel Discussion (all speakers)

12:25 Closing Remarks