HBV2023
INTERNATIONAL MEETING

HEPATITIS B FOUNDATION

KOBE JAPAN

PROGRAM AT A GLANCE

TUESDAY, SEPTEMBER 19, 2023

10:30–12:30	**Emerging Researchers Meeting** Room: 401/402	
13:00–14:30	**HBV Community Forum, organized by the Hep B Foundation and ICE-HBV**	
	13:00–13:05	**Welcome & Opening Remarks** Dr. Chari Cohen, Hepatitis B Foundation & Masanori Isogawa, National Institute of Infectious Diseases, Japan
	13:05–13:25	**Current Hepatitis B Treatment Landscape in Japan** Dr. Tatsuya Kanto, National Center for Global Health and Medicine
	13:25–13:40	**Epidemiology, Progress and Challenges with Hepatitis B Elimination in Japan** Dr. Junko Tanaka, Hiroshima University
	13:40–14:10	**Lived Experience of Hepatitis B – Patient Panel** Mrs. Yonezawa, Japan Hepatitis Council, Mr. Hagibe & Mrs. Yamaday
	14:10–14:25	**Q&A** Moderated by Dr. Thomas Tu, Westmead Institute for Medical Research
	14:25–14:30	**Closing Remarks** Dr. Chari Cohen & Dr Masanori Isogawa
14:30–14:40	**Welcome address** Dr. Koichi Watashi & Dr. Masamichi Muramatsu	
14:40–15:30	**Distinguished Award in HBV Research Lecture**	
	14:40–14:45	**Introduction of 2023's Distinguished Award in Hepatitis B Research by Prof. Matteo Iannacone, San Raffaele Scientific Institute & University, Italy**
	14:45–15:15	**My journey into HBV research** Prof. Luca G. Guidotti, Vita-Salute San Raffaele University & San Raffaele Hospital, Italy
15:15–15:45	**COFFEE**	
16:00–17:00	**KEYNOTE LECTURE 1** Introduced by: Yasuhiro Asahina, Tokyo Medical and Dental University, Japan	
	16:00–16:45	**Stem cell technology for studying hepatology and hepatitis viruses** Prof. Takanori Takebe, Tokyo Medical and Dental University/ Osaka University, Japan
	16:45–17:00	**Q&A**

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17:00–18:45 **SESSION I: Novel technologies/models and data analysis**
Co-chairs: Lena Allweiss, University Medical Center Hamburg-Eppendorf, Germany & Zhenghong Yuan, Fudan University, China

17:00–17:10	**Human-pluripotent stem cell-derived hepatocyte-like cells for hepatitis D virus studies** Huanting Chi, University Hospital Heidelberg (Virtual)
17:10–17:15	**Q&A**
17:15–17:25	**A Rhesus macaque model of HBV/HIV co-infection** Sreya Biswas, Oregon Health And Science University
17:25–17:30	**Q&A**
17:30–17:40	**Cryo-EM structure of empty HBV virion** Joseph CY Wang, Penn State College Of Medicine
17:40–17:45	**Q&A**
17:45–17:55	**Intravital imaging of the liver microenvironment in the woodchuck model of hepatitis B virus infection** Layla Al-Yasiri, University of Calgary (Virtual)
17:55–18:00	**Q&A**
18:00–18:10	**Single-hepatocyte HBV RNA sequencing reveals intrahepatic and intracellular viral diversity in HIV-HBV co-infected individuals.** Monika Mani, Johns Hopkins University
18:10–17:15	**Q&A**
18:15–18:25	**Detection and characterization of HBV dsl-DNA derived cccDNA in chronic hepatitis B (CHB) patients** Ying-Hsiu Su, Baruch S. Blumberg Institute
18:25–18:30	**Q&A**
18:15–18:25	**A comprehensive fitness map of the HBV polymerase reveals a mechanism for cis-preferential pgRNA packaging and reverse transcription** William Schneider, Rockefeller University
18:40–18:45	**Q&A**

18:30–20:30 **WELCOME RECEPTION**

WEDNESDAY, SEPTEMBER 20, 2023

9:00–10:45 **SESSION II: Viral entry to cccDNA biogenesis**
Co-chairs: Ulrike Protzer, Technical University of Munich, Germany & Wenhui Li, National Institute of Biological Sciences, China

9:00–9:10	**Identification of MOGAT2 as a novel host factor in regulating NTCP-mediated HBV entry by genome-wide CRISPR/Cas9 screen** Tadashi Inuzuka, Kyoto University/NIDDK
9:10–9:15	**Q&A**
9:15–9:25	**Cryo-EM structure of the preS1-NTCP complex and its implication in mode of binding** Chisa Kobayashi, National Institute of Infectious Diseases
9:25–9:30	**Q&A**
9:30–9:40	**Targeted viral adaptation generates a simian-tropic hepatitis B virus that infects marmoset cells** Yongzhen Liu, Princeton University (Virtual)
9:40–9:45	**Q&A**
9:45–9:55	**HBV core protein SUMOylation promotes PML association and productive HBV infection** Sabrina Schreiner, University Hospital Freiburg (Virtual)
9:55–10:00	**Q&A**
10:00–10:10	**HBV persistence – DOCK11 promotes HBV utilizing a retrograde trafficking route via the TGN to avoid lysosomal degradation** Ying-Yi Li, Kanazawa University
10:10–10:15	**Q&A**
10:15–10:25	**The MRE11–RAD50–NBS1 complex is involved in hepatitis B virus cccDNA formation** Kaitao Zhao, Wuhan University
10:25–10:30	**Q&A**
10:30–10:40	**Illuminating the Live-Cell Dynamics of Hepatitis B Virus covalent closed circular DNA using CRISPR-Tag** Xiaonan Zhang, University of Calgary
10:40–10:45	**Q&A**

10:45–11:15 **COFFEE**

PROGRAM AT A GLANCE

WEDNESDAY, SEPTEMBER 20, 2023

11:15–13:00 **SESSION III: Transcription to viral egress**
Co-chairs: Kyun-Hwan Kim, Sungkyunkwan University, Korea &
Jianming Hu, The Pennsylvania State University, USA

11:15–11:25	**Role of H2A.Z histone variants on HBV replication** Basile Jay, Institute Of Human Genetics (CNRS), Lyon (Inserm)
11:25–11:30	**Q&A**
11:30–11:40	**A nucleosome switch primes Hepatitis B Virus infection** Robert Schwartz, Weill Cornell Medicine
11:40–11:45	**Q&A**
11:45–11:55	**RNA helicase DDX5 via interaction with IFI16 forms a multicomponent epigenetic complex that silences Hepatitis B Virus transcription by Interferon** Ourania Andrisani, Purdue University (Virtual)
11:55–12:00	**Q&A**
12:00–12:10	**Hepatitis B virus RNAs exploit ELAVL1 for stabilization and CRM1-dependent nuclear export** Yingcheng Zhen, Wuhan University
12:10–12:15	**Q&A**
12:15–12:25	**Structure-guided engineering of active hepatitis B virus ribonuclease H** John Tavis, Saint Louis University School of Medicine
12:25–12:30	**Q&A**
12:30–12:40	**The HBV capsid but not the core protein is recruited L-HBs-Ag at the rim of the nucleus in membrane-rich subcellular compartments** Hugues de Rocquigny, Inserm U1259- Mavih
12:40–12:45	**Q&A**
12:45–12:55	**Structural characterization of HBV capsid interaction with envelope proteins using CryoEM** Sonal Garg, Penn State University College of Medicine
12:55–13:00	**Q&A**

WEDNESDAY, SEPTEMBER 20, 2023

13:00–14:00 **LUNCH BREAK**

14:00–15:00 **KEYNOTE LECTURE 2**
Introduced by Shingo Iwami, Nagoya University, Japan

14:00–14:45	**Insights into Hepatitis B gained from Viral Kinetic Modeling** Alan S. Perelson, Los Alamos National Laboratory, USA
14:45–15:00	**Q&A**

15:00–15:30 **COFFEE**

15:30–17:15 **SESSION IV: Drug discovery in preclinical models**
Co-chairs: Alexander Ploss, Princeton University, USA &
Yasuhito Tanaka, Kumamoto University, Japan

15:30–15:40	**CRISPR/Cas9 editing of integrated HBV DNA and cccDNA with chemically ligated guide RNA(LgRNA) represses the expression and replication of HBV via multiple mechanisms** Qiong Zhao, Baruch S. Blumberg Institute
15:40–15:45	**Q&A**
15:45–15:55	**Pre-clinical profiling of a novel class of orally bioavailable small molecules potently inhibiting hepatitis B and D virus entry** Marc P. Windisch, Assembly Biosciences, Inc.
15:55–16:00	**Q&A**
16:00–16:10	**Preclinical in vivo evaluation of the antiviral activity of a novel orally bioavailable small molecule NTCP inhibitor** Philip Meuleman, Ghent University
16:10–16:15	**Q&A**
16:15–16:25	**VIR-2218 and VIR-3434 therapy is efficacious in preclinical models of Hepatitis Delta Virus infection** Florian Lempp, Vir Biotechnology
16:25–16:30	**Q&A**
16:30–16:40	**Allosteric regulation of HBV gene expression by core protein-targeting small molecules** Adam Zlotnick, Indiana University (Virtual)
16:40–16:45	**Q&A**
16:45–16:55	**Evaluation of immune responses following treatment with a capsid assembly modulator in an immunocompetent humanized mouse model** Helene Strick-Marchand, Institut Pasteur
16:55–17:00	**Q&A**

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WEDNESDAY, SEPTEMBER 20, 2023

	17:00–17:10	**Silencing of HBV and PD-L1 synergistically enhances the efficacy of therapeutic vaccination in high-titer HBV-carrier mice** Anna D. Kosinska, Helmholtz Zentrum München GmbH
	17:10–17:15	**Q&A**
17:15–19:15		**POSTER SESSION I & RECEPTION**

THURSDAY, SEPTEMBER 21, 2023

9:00–10:45		**SESSION V: Antiviral therapies and epidemiology** Co-chairs: Rachel Wen-Juei Jeng, Chang Gung Memorial Hospital, Taiwan & Robert Thimme, University of Freiburg, Germany
	9:00–9:10	**Hepatitis B virus middle surface antigen is a vital factor associated with HBV persistence in mouse model** Shenyan Zhang, Fudan University
	9:10–9:15	**Q&A**
	9:15–9:25	**Nationwide analysis of mortality and economic burden among chronic HBV-infected patients in France: a real-world study** Laurent Lam, Sorbonne University
	9:25–9:30	**Q&A**
	9:30–9:40	**A novel combination of TherVacB and 4-1BB mAb boosts the immune response against hepatitis B in high-titer HBV-carrier mice** Edanur Ates Oz, Institute of Virology, Technical University/ Helmholtz Center Munich
	9:40–9:45	**Q&A**
	9:45–9:55	**CD8 cis-targeted IL-2 drives potent antiviral activity against hepatitis B virus** Ricardo Ramirez, Gilead Sciences, Inc.
	9:55–10:00	**Q&A**
	10:00–10:10	**VALIANT studies: using long-read sequencing to study the dynamics of HBV DNA and RNA in CHB Patients** Francesco Andreata, Università Vita-Salute San Raffaele
	10:10–10:15	**Q&A**
	10:15–10:25	**A chimeric switch receptor armored HBsAg CAR-T overcomes multiple obstacles for effective elimination of HBV infected hepatocytes and HCC cells** Tao Jin, SCG Cell Therapy Pte Ltd
	10:25–10:30	**Q&A**
	10:30–10:40	**HBs-directed T cell engager antibodies induce efficient recruitment of T cells and lead to a substantial reduction of HBV infection in human liver chimeric mice receiving NUC therapy** Annika Volmari, University Medical Center Hamburg-Eppendorf
	10:40–10:45	**Q&A**

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THURSDAY, SEPTEMBER 21, 2023

10:45–11:15 **COFFEE**

11:15–13:00 **SESSION VI: Adaptive immunity**
Co-chairs: Anthony Tanoto Tan, Duke-NUS Medical School, Singapore
Matteo Iannacone, IRCCS San Raffaele Scientific Institute, Italy

11:15–11:25	**Generating Dual-specific MAIT Cells against HBV-associated HCC and Cancer Microbiota** Margaret Sallberg Chen, Karolinska Institutet
11:25–11:30	**Q&A**
11:30–11:40	**Type-I-IFN acting on virus-specific CD8 T cells reconstitutes dysfunctional T cell immunity in persistent HBV replication to clear infection** Emely Springer, Technical University Of Munich
11:40–11:45	**Q&A**
11:45–11:55	**Persistent expression of HBsAg induces B cell clonal anergy but imprints B1b-B cell fate to sustain antibody response** Xiaolan Xu, Shanghai Medical College, Fudan University
11:55–12:00	**Q&A**
12:00–12:10	**Unraveling B Cell Dynamics in Hepatitis B** Cristian Gabriel Beccaria, Ospedale San Raffaele SRL
12:10–12:15	**Q&A**
12:15–12:25	**CD4⁺T cells license Kupffer cells to revert the CD8⁺T cell dysfunction induced by hepatocellular priming** Valentina Venzin, Ospedale San Raffaele SRL
12:25–12:30	**IL-2 Produced by HBV-specific T cells as a Biomarker of Viral Control and Predictor of Response to PD-1 Therapy Across Clinical Phases of Chronic Hepatitis B** Loghman Salimzadeh, University Health Network
12:30–12:40	**Q&A**
12:40–12:45	**Rapid functional secretome analysis of HBV-specific T cells to guide clinical management of CHB patients** Nina Le Bert, Duke-NUS Medical School
12:55–13:00	**Q&A**

13:00–14:00 **LUNCH BREAK**

THURSDAY, SEPTEMBER 21, 2023

14:00–15:00 **KEYNOTE LECTURE 3**
Introduced by Takaji Wakita, National Institute of Infectious Disease, Japan

14:00–14:45	**Clinical Perspective of Immunological Research on HBV** Tatsuya Kanto, National Center for Global Health and Medicine, Japan
14:45–15:00	**Q&A**

15:00–15:30 **COFFEE**

15:30–17:15 **SESSION VII: Host restriction and Innate immunity**
Co-chairs: Julie Lucifora (INSERM, France) & Masanori Isogawa (National Institute of Infectious Diseases, Japan)

15:30–15:40	**Hepatitis B virus e antigen induces atypical metabolism and regulates programmed cell deaths of macrophages via toll-like receptor 4** Yumei Li, University Of Southern California (Virtual)
15:40–15:45	**Q&A**
15:45–15:55	**A novel intrahepatic host gene, named msh homeobox 1, potently restricts HBV gene expression and viral genome replication** Zhongliang Shen, Huashan Hospital, Fudan University (Virtual)
15:55–16:00	**Q&A**
16:00–16:10	**Differential roles for 5'-3' exoribonuclease 1 in HBV and HDV infection** Senko Tsukuda, University of Oxford
16:10–16:15	**Q&A**
16:15–16:25	**Enrichment of intrahepatic NK cells with decreased exhaustion and increased activation with declining HBsAg levels in CHB patients** Sriram Narayanan, National University of Singapore (Virtual)
16:25–16:30	**Q&A**
16:30–16:40	**Engineering NK cell immunotherapy to optimise liver homing and T cell regulation** Mariana Diniz, University College London
16:40–16:45	**Q&A**
16:45–16:55	**Characterizing the mechanism of the hepatitis B virus (HBV) host range restriction in mice** Stephanie Maya, Princeton University
16:55–17:00	**Q&A**

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THURSDAY, SEPTEMBER 21, 2023

	17:00–17:10	**Investigation of replication, pseudotyping, and IFN responses of woodchuck and deer HDV-like agents in human hepatoma cell lines.** Gnimah Eva Gnouamozi, Centre for Integrative Infectious Disease Research (CIID)
	17:10–17:15	**Q&A**
17:15–19:15	**POSTER SESSION II & RECEPTION**	

FRIDAY, SEPTEMBER 22, 2023

9:00–10:45 **SESSION VIII: Virus host interaction**
Co-chairs: Jane McKeating, University of Oxford, UK (Virtual)
Shiou-Hwei Yeh, National Taiwan University, Taiwan

9:00–9:10	**Poly (ADP-ribose) glycohydrolase (PARG) suppresses HBx-mediated SMC5/6 degradation through downregulating DDB1 protein** Cheng-Der Liu, University Of Pittsburgh
9:10–9:15	**Q&A**
9:15–9:25	**Intrahepatic high-resolution transcriptomic landscapes in chronic hepatitis B uncover heterogeneity in viral transcription that is associated with host gene regulation** Che-Min Lo, Johns Hopkins University School of Medicine
9:25–9:30	**Q&A**
9:30–9:40	**HBV with precore and basal core promoter mutations exhibits a high replication phenotype and causes ER stress-mediated cell death in humanized liver chimeric mice** Takuro Ochida, Oita University
9:40–9:45	**Q&A**
9:45–9:55	**Impact of HBV pre-core mutation and IFNα on hepatocyte proteome in chronically-infected primary human hepatocytes** Lefteris Michailidis, Emory University
9:55–10:00	**Q&A**
10:00–10:10	**Epitranscriptomic cytidine methylations on HBV pgRNA ensure efficient virion packaging and reverse transcription** Pei-Yi (Alma) Su, Academia Sinica, Taipei 11529
10:10–10:15	**Q&A**
10:15–10:25	**Identification of the Hsp40 chaperone DNAJB12 in the functional mechanism of the nucleic acid polymer REP 2139 and establishment of its Mechanism-of-Action in the secretion of HBsAg.** Léna Angelo, Institut National De La Recherche Scientifique
10:25–10:30	**Q&A**
10:30–10:40	**Spatial transcriptomic atlas of cytokine-producing and cytolytic HBV-specific CD8+ T cells in the liver after OX40 stimulation** Keigo Kawashima, Ospedale San Raffaele srl
10:40–10:45	**Q&A**

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FRIDAY, SEPTEMBER 22, 2023

10:45–11:15 **COFFEE**

11:15–13:00 **SESSION IX: Integration, pathogenesis, and HCC**
Co-chairs: Christine Neuveut, Université de Montpellier, France &
Thomas Tu, The University of Sydney, Australia

11:15–11:25	**The source of hepatitis B surface antigen (HBsAg) in individual hepatocytes shifts from cccDNA-derived to integrated HBV DNA (iDNA)-derived with nucleos(t)ide analogue (NUC) therapy** Maraake Taddese, Johns Hopkins University
11:25–11:30	**Q&A**
11:30–11:40	**Analysis of integrated HBV DNA Sequences in HBV-related HCC provides insight of integration timing and tumorigenesis potential of HBV variants and genotypes** Chiao-Ling Li, National Taiwan University
11:40–11:45	**Q&A**
11:45–11:55	**Mechanism of formation of the earliest hepadnaviral-hepatocyte genomic fusions** Thomas I. Michalak, Memorial University
11:55–12:00	**Q&A**
12:00–12:10	**ABI-4334, a novel inhibitor of hepatitis B virus core protein, disrupts DL-DNA containing capsids and prevents HBV DNA integration** Nuruddin Unchwaniwala, Assembly Biosciences, Inc.
12:10–12:15	**Q&A**
12:15–12:25	**Evidence for HBeAg and pregenomic RNA expression from integrated Hepatitis B Virus DNA** Thomas Tu, The University Of Sydney
12:25–12:30	**Q&A**
12:30–12:40	**Selective excretion of HBV DNA and viral-host junction to urine in chronic hepatitis B (CHB) patients: characterization of urinary HBV DNA profile in urine and matched plasma** Ying-hsiu Su, Baruch S. Blumberg Institute
12:40–12:45	**Q&A**
12:45–12:55	**Interference with the finely tuned regulation of HDV replication through prenylation of L-HDAg influences cytopathic effects of HDV** Johanna Bauer, Heidelberg University
12:55–13:00	**Q&A**

FRIDAY, SEPTEMBER 22, 2023

13:00–14:00 **LUNCH**

14:00–15:45 **SESSION X: Genotypes, Evolution, and HDV**
Co-chairs: Stephan Urban, University Hospital Heidelberg, Germany &
Teresa Pollicino, University Hospital of Messina, Italy

14:00–14:10	**N6-adenosine-methylation on Hepatitis D Virus genome is important for viral packaging: a revisit** Yun-Hua Lin, College of Medicine, National Taiwan University
14:10–14:15	**Q&A**
14:15–14:25	**REP 2139 has a direct antiviral effect on Hepatitis Delta Virus (HDV) replication** Massimo Levrero, Inserm U1052 CRCL
14:25–14:30	**Q&A**
14:30–14:40	**Beyond the Liver: Investigating HDV's Role in Sjogren's Disease Pathogenesis** Melodie Weller, University Of Utah
14:40–14:45	**Q&A**
14:45–14:55	**Molecular Clock Analysis of Human Hepatitis Delta Virus Reveals a Neolithic African Origin** Stéphanie Tomba Ngangas, Centre national de référence des virus des hépatites B, C et Delta, hôpital Avicenne (AP-HP)
14:55–15:00	**Q&A**
15:00–15:10	**HBV disease burden and genetic diversity in Ethiopia** Gadissa Bedada Hundie, St. Paul's Hospital Millennium Medical College
15:10–15:15	**Q&A**
15:15–15:25	**In vivo mono-infection of humanized mice with an ancient 7,000-year-old extinct HBV Gt-G-like isolate reveals an enhanced replication potential compared to modern-day Gt-G** Tassilo Volz, University Medical Center Hamburg-Eppendorf
15:25–15:30	**Q&A**
15:30–15:40	**Replication error rate of hepatitis B virus at single base pair resolution** Yu Ken Low, National Taiwan University
15:40–15:45	**Q&A**

15:45–16:15 **COFFEE**

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FRIDAY, SEPTEMBER 22, 2023

16:15–16:30	**Updates by the Hepatitis B Foundation (HBF, USA)** Chari A. Cohen, DrPH, MPH, President, Hepatitis B Foundation
16:30–16:45	**Updates on ICE-HBV** John Tavis, PhD, Chair
16:45–16:55	**FAREWELL**
16:55–17:15	**HBV 2024 PRESENTATION**
18:30–22:00	**GALA DINNER**

SATURDAY, SEPTEMBER 23, 2023

9:00–11:30	**ICE-HBV SYMPOSIUM: RNA-targeting therapies: potential determinants of sustained HBV suppression** Moderators: Maura Dandri, Germany & Adam Gehring, Canada

Session 1: Scientific Talks

9:00–9:15	**Therapeutic approaches for targeted RNA degradation: Background and strategies to target HBV** John Tavis, University of Saint Louis, USA
9:15–9:20	**Q&A**
9:20–9:35	**RNAi-mediated secondary mode of action: impact on HBV cccDNA** Lena Allweiss, University Medical Center Hamburg-Eppendorf, Germany
9:35–9:40	**Q&A**
9:40–9:55	**Prospects of Immune Restoration after Antigen Reduction** Matteo Iannacone, San Raffaele Scientific Institute & University, Italy
9:55–10:00	**Q&A**
10:00–10:15	**siRNA/ASO strategies to target HDV** Julie Lucifora, INSERM, Lyon, France
10:15–10:20	**Q&A**

10:20–10:30	**COFFEE**
10:30–11:30	**Session 2: Company Talks on RNAi drugs**

10:30–10:40	**Vir Biotechnology** Florian Lempp
10:40–10:50	**GSK** TBD
10:50–11:00	**Janssen** Oliver Lenz
11:00–11:30	**Panel discussion: Exploring the Rationale for Most Promising Combination Therapies in RNA-Targeting Therapies for Sustained HBV Suppression**