



16th Annual Scientific Workshop

2 – 4 June 2021



Peppers Craigieburn

<https://www.peppers.com.au/craigieburn>

(02) 4862 8000

Centennial Road, Bowral NSW



Workshop Committee Members:

Hepatitis: Chaturaka Rodrigo and Nadia Warner

HIV: Jennifer Juno and Andrew Harman

Executive Officer: Joanne Camilleri

02 8627 3004

joanne.camilleri@sydney.edu.au

<https://www.ach2.org.au/>

INVITED SPEAKERS

HIV

Professor Sharon Lewin

Director, Peter Doherty Institute for Infection and Immunity

Professor of Infectious Diseases, The University of Melbourne

Consultant Infectious Diseases Physician, Alfred Hospital and Royal Melbourne Hospital

National Health and Medical Research Council (NHMRC) Practitioner Fellow

Hepatitis

Associate Professor Xiaonan Zhang

Associate Professor, Faculty of Science and Technology, University of Canberra

GUEST SPEAKERS

Professor Damian F J Purcell, PhD - Peter Doherty Institute for Infection and Immunity

Associate Professor Rowena Bull, PhD – The Kirby Institute

Dr Kirstie Bertram, PhD – The Westmead Institute for Medical Research

Dr Wen Shi Lee, PhD – Peter Doherty Institute for Infection and Immunity

Day One: Wednesday 2 June 2021

11:30 – 13:00 **Registration and Refreshments: Alexander Room**

13:00 – 14:00 **Lunch: Hickory's Restaurant**

14:00 – 14:15 **Welcome: Carrington Room - Tony Cunningham**

14:15 – 15:00 **Hepatitis Plenary: Carrington Room**

Chair: Peter Revill

Xiaonan Zhang

Associate Professor, Faculty of Science and Technology
University of Canberra

Title: Molecular snapshots of the HBV life cycle within hepatocytes and in circulation

15:00 – 15:30 **Afternoon Tea: Alexander Room**

15:30 – 17:00 **Joint Session 1: COVID and HIV/Hepatitis Research**

Chairs: Andrew Lloyd and Jennifer Juno

Room: Carrington

15:30 – 16:00 **Wen Shi Lee, PhD**
Antibody Fc-mediated effector functions: from HIV to SARS-CoV-2

16:00 – 16:15 **Stephen Kent** [1]
Antibodies at mucosal surfaces to prevent HIV and other viral infections

16:15 – 16:30 **Chantelle Ahlenstiel** [2]
Development of a broad-spectrum anti-coronavirus RNA therapeutic

16:30 – 16:45 **Olaitan Ogunbodede** [3]
Potential and demonstrated impacts of the COVID-19 pandemic on sexually transmissible infection (STI)/HIV transmission

16:45 – 17:00 **Joseph Yunis** [4]
High levels of soluble CD25 in COVID-19 severity suggest a divergence between anti-viral and pro-inflammatory T-cell responses.

17:00 – 17:30 **Rowena Bull, PhD**
Arming memory B cells to tackle RNA virus diversity

17:30 – 19:00 **ACHV Annual General Meeting: Carrington Room**

19:00 – 19:30 **Free Time**

19:30 – 22:00 **Dinner (Plated BBQ): Hickory's Restaurant**

Day Two: Thursday 3 June 2021

07:00 – 08:30 **Breakfast: Hickory's Restaurant**

08:30 – 09:15 **HIV Plenary: Carrington Room**

Chairs: Jennifer Juno and Andrew Harman

Sharon Lewin

Peter Doherty Institute for Infection and Immunity

The University of Melbourne

Tony Cunningham

The Westmead Institute for Medical Research

The University of Sydney

Australian Centre for HIV and Hepatitis Virology Research

Title: Pivoting to COVID-19: how bloodborne virus research has underpinned the response to COVID

09:15 – 10:30 **Joint Session 2: HIV**

Chairs: Jennifer Zerbato and Andrew Harman

Kirstie Bertram, PhD

09:15 – 09:45 Human skin and mucosal conventional dendritic cell type 2 subsets are major target cells for HIV and Herpes Simplex Virus infections

09:45 – 10:00 **Soumya Agrawal** [5]

Characterising epidermal CD11c+ dendritic cell migratory factors in human explants and HIV infection

10:00 – 10:15 **Erica Vine** [6]

HIV interactions with colorectal macrophages in early infection

10:15 – 10:30 **Bethany Horsburgh** [7]

Intact HIV genomes are unequally distributed during therapy

10:30 – 11:00 **Morning Tea: Alexander Room**

11:00 – 13:00 **Joint Session 3: HIV**

Chairs: Stephen Kent and Kirstie Bertram

11:00 – 11:15 **Gabriel Duette** [8]

The role of nef in promoting persistent HIV in effector memory CD4+ T cells from individuals on long-term ART

11:15 – 11:30 **Jennifer Zerbato** [9]

HIV DNA persists in the liver in both CD4+ cells and hepatocytes in HIV/HBV co-infection on antiretroviral therapy

11:30 – 11:45	Jared Stern Organic selenium compounds regulate the circadian gene Bmal1 and induce HIV viral reactivation from latently infected cells in vitro and ex vivo	[10]
11:45 – 12:00	Anneke de Vries Characterisation of HIV-1 proviruses over time in memory CD4+ T-Cell populations 'enriched' for latently infected cells	[11]
12:00 – 12:15	Celine Gubser Glucocorticoid-induced TNFR-related protein (GITR) is an immune checkpoint molecule that remains dysregulated in people with HIV on ART	[12]
12:15 – 12:30	Rachel Pascoe Pomalidomide as an immunomodulatory agent to enhance NK cell anti-HIV immunity	[13]
12:30 – 12:45	Youry Kim Romidepsin combined with pro-apoptotic drugs reduce integrated HIV DNA	[14]
12:45 – 13:00	Li Li Development of a vaginal administration of anti-HIV microbicide nanosystem	[15]
13:00 – 14:00	Lunch: Hickory's Restaurant	
14:00 – 15:30	Breakout Session 1: HIV Chair: Wen Shi Lee and Bethany Horsburgh Room: Carrington	
14:00 – 14:15	Jake Rhodes Human anogenital monocyte derived dendritic cells are major HIV target cells	[16]
14:15 – 14:30	Jesse Brown Defining HIV uptake receptors on anogenital dendritic cells	[17]
14:30 – 14:45	Hans Kek Differential expression of HIV envelope epitopes on the surface of HIV-infected macrophages and CD4+ T cells	[18]
14:45 – 15:00	Brianna Jesaveluk Lactic acid produced by an optimal vaginal microbiota promotes cervicovaginal epithelial barrier integrity: implications for HIV transmission	[19]
15:00 – 15:15	Kevin Hu Investigating Gut CD103+ T Cells in HIV Infection by Multiplexed Microscopy	[20]
15:15 – 15:30	Blake Johnson Plasmacytoid dendritic cells have divergent effects on HIV infection of initial target cells and induce a pro-retention phenotype	[21]
14:00 – 15:30	Breakout Session 2: HBV Chairs: Thomas Tu and Margaret Littlejohn Room: Minters	
14:00 – 14:15	Kasha Singh Hepatitis B RNA and core related antigen in HIV-HBV coinfection	[22]

14:15 – 14:30	Laura McCoullough Analysing the effects of HBV splice variants on wildtype HBV replication	[23]
14:30 – 14:45	Harikrishnan Balachandran Longevity of memory B cells: Lessons to learn from hepatitis B vaccination	[24]
14:45 – 15:00	Wei Zhao HIV-1 Tat stimulates hepatitis B surface antigen expression in hepatocytes co-infected with HIV and hepatitis B virus	[27]
15:30 – 16:00	Afternoon Tea: Alexander Room	
16:00 – 17:45	Breakout Session 3: HIV Chairs: Chantelle Ahlenstiel and Jake Rhodes Room: Minters	
16:00 – 16:15	Katie Fisher Defective genomes are present in plasma of HIV-1-infected individuals	[25]
16:15 – 16:30	Sara Marrero Hernandez HIV-1 Nef targets HDAC6 to assure viral production and virus infection	[26]
16:30 – 16:45	Thomas O'Neil Designing high parameter FACS panels for investigating CD4+ Tissue resident T cells in human anogenital tissues as targets for HIV	[28]
16:45 – 17:00	Freja Warner van Dijk Understanding mononuclear phagocytes in inflamed anogenital tissue and their role in HIV acquisition	[29]
17:00 – 17:15	Lindi Masson Biological differences modify the effects of long-acting contraceptives on genital inflammatory biomarkers of HIV risk	[30]
17:15 – 17:30	Caroline Royle Development of gene therapy to prevent HIV inhibition of interferon production in human dendritic cells	[31]
17:30 – 17:45	Marvin Holz HIV-1 protease degrades cytosolic RNA sensors RIG-I and MDA5 - a potential immune evasion mechanism for HIV-1	[32]
16:00 – 17:30	Breakout Session 4: HBV Chair: Peter Revill and Julie Nigro Room: Carrington	
16:00 – 16:15	Henrik Zhang Chronic hepatitis B infection is maintained by cells resistant to mitosis	[34]
16:15 – 16:30	Thomas Tu Hepatitis B Virus covalently closed circular (ccc)DNA is completely lost after mitosis of infected cells	[35]

16:30 – 16:45	Yuanyuan Liu Investigating the effect of fatty liver disease on HBV DNA integration	[36]
16:45 – 17:00	Iram Irshad Inhibiting host TM6SF2 to cure hepatitis B	[37]
17:00 – 17:15	Yianni Droungas Targeted HBeAg seroclearance in a chronic-like HBV mouse model using chimeric bio-nanoparticles	[38]
17:15 – 17:30	Priyanka Srinivasan Towards development of a point-of-care assay for quantification of HBV	[39]
17:30 – 19:00	Free Time	
19:00 – 19:30	Pre-dinner Drinks	
19:30 – 23:00	Formal Dinner: Carrington Room	

Day Three: Friday 4 June 2021

07:00 – 08:30 **Breakfast: Hickory's Restaurant**

08:30 – 10:45 **Joint Session 4: HTLV and HCV**
Chair: Chaturaka Rodrigo and Rowena Bull
Room: Carrington

08:30 – 09:00 **Damian Purcell, PhD**
Should Australia develop an HTLV-1 vaccine?

09:00 – 09:15 **Rosemary Ffrench** [40]
Validation of VL-Plasma® device for use in HTLV proviral load and antibody testing

09:15 – 09:30 **Paula Ellenberg** [41]
Development of a novel HTLV-1 Subtype C in-vitro system for the study of viral cell-to-cell transmission

09:30 – 09:45 **Ashley Hirons** [42]
The complex and distinct host virus interplay of HTLV-1c infection

09:45 – 10:00 **Anurag Adhikari** [43]
Increase in antibody-dependent phagocytosis in a subset of HCV patients with anti-envelope antibodies

10:00 – 10:15 **Hossain Sazzad** [44]
Optimised approach for high throughput hepatitis C virus amplification for transmission cluster identification in Australian prisons

10:15 – 10:30 **Money Gupta** [45]
B cell responses in Hepatitis C virus reinfection outcomes reveals signatures associated with the infection outcome

[46]

10:45 – 11:15 **Morning Tea: Alexander Room**

11:15 – 12:45 **Joint Session 5: HBV**
Chair: Kumar Visvanathan and David Anderson
Room: Carrington

11:15 – 11:30 **Michael Beard** [47]
LGR5+ Human Liver Organoids Culture as a model for hepatotropic viral infection

11:30 – 11:45 **Joe Torresi** [48]
Modulation of Wnt/Fzd Signalling in Liver Organoids Infected with HBV

11:45 – 12:00 **Julie Nigro** [49]
Validation of biomarkers for hepatitis B virus infection in donor-derived liver organoids

- 12:00 – 12:15** **Kerry Breheny** **[50]**
Functional assays to assess immune-cell killing of hepatitis B virus infected and non-infected donor-derived hepatocellular carcinoma tumouroids
- 12:15 – 12:30** **Jessica Howell** **[51]**
Validation of a novel point-of-care test for gut leakage in cirrhosis based on dimeric to monomeric IgA ratio: a pilot cohort study
- 12:30 – 12:45** **Cynthuja Thilakanathan** **[52]**
Baseline predictors of post-partum HBeAg seroconversion
- 12:45 – 13:45** **Lunch: Hickory's Restaurant**
- 13:45 – 14:15** **Closing Awards and Departure: Carrington Room**

THANK YOU FOR ATTENDING THE 2021 ACH² WORKSHOP