

Meeting Schedule

Sunday 19th July

14:00 - onward	Registration Located in the Concourse adjacent to the College Buttery
15:30 - 17:00	Welcome Reception Buttery or Jock Coville Lawn depending on weather
17:00 - 19:00	<u>Session I: Replication</u> <i>Chairs: Alison McBride and Frank Stubenrauch</i> Abstract 1-8
19:00 - onwards	Dinner & World Cup Final

Monday 20th July

08:45 - 10:15	<u>Session II: Virus-Host Interactions</u> <i>Chairs: Elizabeth White and Nicole Fischer</i> Abstract 9-14
10:15 - 10:45	Break
10:45 - 12:30	<u>Session II: Virus-Host Interactions (Continued)</u> Abstract 15-21
12:30 - 14:00	Lunch
14:00 - 15:40	<u>Session III: Immune Responses</u> <i>Chairs: Paul Lambert and Enrique Boccardo</i> Abstract 22-28
15:40 - 16:10	Break
16:10 - 17:45	<u>Session III: Immune Responses (Continued)</u> Abstract 29-34
17:45 - 19:30	Dinner
19:30 - 20:45	<u>Plenary Lecture I</u> <i>Benjamin Simons, University of Cambridge</i> Stem Cell Dynamics: Unlocking Barriers to Tumour Development
20:45 - 22:00	<u>Poster Session I</u>

Tuesday 21st July

08:45 - 10:20

Session IV: Oncogenesis 1

Chairs: Karl Munger and Vjeko Tomaic

Abstract 35-41

10:20 - 10:50

Break

10:50 - 12:30

Session IV: Oncogenesis 1 (continued)

Abstract 42-48

12:30 - 14:00

Lunch

13:00 - 14:00

Optional Session: NCI Funding and Opportunity Discussion + Panel Q&A

Speakers: Vignesh Gunasekharan

14:00 - 15:45

Session V: Virus Entry & Infection Mechanisms

Chairs: Michelle Ozbun and Colin Crump

Abstract 49-56

15:45 - onwards

Afternoon free (Posters available for viewing)

Wednesday 22nd July

08:45 - 10:15

Session VI: Life Cycle

Chairs: Lou Laimins and James DeCaprio

Abstract 57-63

10:15 - 10:45

Break

10:45 - 12:30

Session VI: Life Cycle (Continued)

Abstract 64-70

12:30 - 14:00

Lunch

14:00 - 16:00

Session VII: Gene Expression

Chairs: Shella Graham and Thomas Zheng

Abstract 71-79

16:00 - 17:15

Poster Session II

17:00 - 18:30

Dinner

18:30 - 19:45

Plenary Lecture II

Nicole Fischer, University Medical Center Hamburg-Eppendorf

Advancing Human Polyomavirus Research: From Viral Biology to Disease

19:45 - 20:00

Break

20:00 - 22:00

Session VIII: Oncogenesis 2

Chairs: Lawrence Banks and Paola Blanchette

Abstract 80-88

Thursday 23rd July

08:45 - 10:15

Session IX: Pathogenesis

Chairs: Megan Spurgeon and Tim Fenton

Abstract 89-95

10:15 - 10:45

Break

10:45 - 12:15

Session IX: Pathogenesis (Continued)

Abstract 96-101

12:15 - 13:45

Lunch

13:45 - 15:25

Session X: Mechanistic Understanding for Therapy

Chairs: Joanna Parish and Koenraad Van Doorslaer

Abstract 102-108

15:25 - 15:55

Break

15:55 - 17:15

Session X: Mechanistic Understanding for Therapy (Continued)

Abstract 109-114

18:30 - 19:30

Gala Dinner Reception

19:30 - onwards

Gala Dinner

Friday 24th July

07:30 - onwards

Breakfast and Departure

Poster Session I

Abstract numbers: 117, 123, 124, 125, 127, 129, 132, 133, 137, 139, 140, 141, 142

Poster Session II

Abstract numbers: 115, 116, 118, 119, 120, 121, 122, 126, 128, 130, 131, 134, 135, 136, 138, 143

Session Programme

SESSION I: REPLICATION

Chairs: Alison McBride and Frank Stubenrauch

Abstract 1-8

1. **The Spatial and Functional Architecture of HPV Replication Factories**
C. Redmond, D. Chen, W. Zheng, J. Chang, A.A. McBride
2. **Viral inhibition of the anaphase promoting complex enhances replication by elevating nucleotide pools**
O.J. Chen, C.Y. Feng, R.J. Ladak, M.A. Crosby, M.S.T. Russo, Y. Wang, P. Blanchette, Y. Liang, D.M. Sharon, M. Moustafa-Kamal, I. Gamache, N. Sonenberg, D. Avizonis, J.G. Teodoro
3. **Restoration of HR Limits HPV-Positive Cellular Viability**
Christopher D. Collins, Dhruthi Suresh, Keira Ylvisaker, Marcel Morgenstern, Drew Jordahl, Katie Overmyer, Josh Coon, Megan E. Spurgeon, Kavi Mehta
4. **Targeting Cisplatin-Induced RAD51 Filaments Uncovers a Vulnerability in HPV-Positive HNSCC**
Marie-Anne Bérubé, Julien Dessapt, Line Balisatire, Élise G. Lavoie, Andréanne Blondeau, Amélie Fradet-Turcotte
5. **Defining the Polymerase milieu employed by Human Papillomavirus (HPV) across the viral lifecycle and viral interaction with the host replication machinery**
Dhruthi Suresh, Marcel Morgenstern, Christopher D. Collins, Gopishankar Thirumoorthy, Denis Lee, Micheal Leser, Kristie Lindsey Rose, Paul Lambert, Joshua Coon, Kevin Lang, Alison McBride, Megan E. Spurgeon, Kavi P.M. Mehta
6. **ARGLU1 is a Negative Regulator of the Adenoviral Replicative Cycle**
A. Koul, L. Fulham, N. Akkerman, D. Graves, E. Kaul, K. Khadija, P. Pelka
7. **APOBEC3-mediated suppression of archetype BKPyV rearrangements and replication in urothelial cells**
Helena Vogel, Gabriel J Starrett
8. **APOBEC3B inhibits HPV genome replication independently of its deaminase activity**
Iwao Kukimoto, Seiichiro Mori, Kousho Wakae

SESSION II. VIRUS-HOST INTERACTIONS

Chairs: Elizabeth White and Nicole Fischer

Abstract 9-21

9. **Identifying mechanisms of antiviral enzyme APOBEC3A expression in tonsil epithelium using organoid models**
B.P. Sharpe, I. Reddin, G. Thomas, E. King, T.R. Fenton

10. **Detection and structural characterization of HPV16 E2 variants in Tunisian precancerous and cancerous cervical lesions**
M. Ardhaoui, B. Gayed, K. Ouerhani, E. Ennaifer, R. Belhadj-Rhouma
11. **E2 activation of the DNA damage response creates targetable vulnerabilities in HPV infections and cancers**
Apurva T. Prabhakar, Claire D. James, Allison Q. Nguyen, Phoebe V. Bridy, Xu Wang, Ryan J. Zoldork, Jenny D. Roe, Austin J. Witt, Srimanya S. Panidepu, Molly L. Bristol, Krista Dalton, Andreas Wieland, Ahmed Diab, Anthony C. Faber, Elliot J. Androphy, Devraj Basu, Paul F. Lambert, Megan E. Spurgeon, Iain M. Morgan
12. **The Polyomavirus Middle T-Antigen Protein Forms a Discrete Nanocluster Complex in the Outer Cell Membrane**
Stephen M Dilworth
13. **YAP Activation Disrupts MCPyV – Driven Tumor Maintenance and Requires mTOR Signaling for Cellular Survival**
C. Mazziotta, F. Bahar, J.A. DeCaprio
14. **Using a germ-free mouse model to study the role of the cervicovaginal microbiome in human papillomavirus infection**
C. Schiff, C. Salas-Quinchucua, M. E. Spurgeon
15. **E2F1-3 activate MCPyV LT/ST transcription and viral replication**
N.J.H. Salisbury, S. Amonkar-Patil, A. Roman, D.A. Galloway
16. **NF-κB reprograms MCPyV early transcription to suppress viral replication**
N.J.H. Salisbury, S. Amonkar-Patil, A. Roman, D.A. Galloway
17. **HPV16, but not HPV18, represses chemokine signalling in tonsil epithelia through targeted modulation of host cell chromatin**
Leanne Jones, Jack Ferguson, Pavan Thind, Sally Roberts, Jo Parish
18. **HPV18 mutes cGAS-STING signalling in the presence of increased cellular cGAMP levels**
S. Shivpuri, D. P. Kosanke, I. G. Tobey, S. K. Campos, K. Van Doorslaer
19. **MmuPV1 E6 and IKKα - There is More to E6R130A Than Meets the Eye**
L. Zhang, K. Duxbury, Z. Morris, J.C. Romero-Masters
20. **Development of a two-colour fluorescence stability assay to identify novel regulators of HPV16 E7 stability**
Louisa M Wootton, Megan Wagstaff, Benjamin P Towler, Helfrid Hocheegger, Rhys G Morgan, Ethan L Morgan
21. **Creation of a novel and inducible knock-in mouse skin model to analyze the functional role(s) of JC virus ORF4 protein, in keratinocytes, using HSV as a surrogate virus**
A.S. Saribas, M. Safak

SESSION III. IMMUNE RESPONSES
Chairs: Paul Lambert and Enrique Boccardo
Abstract 22-34

22. **Targeting NSD2 to Modulate Tumor Immunogenicity in HNSCC According to HPV Status**
Lavinia Ghiani, Marta Tagliabue, Simona Citro, Francesco Chu, Farkhondeh Ghoryani, Mirko Doni, Francesco Bonacina, Fausto Maffini, Mohssen Ansarin, Susanna Chiocca
23. **Detection of traces of EBNA2 in the Microenvironment of Pediatric Classical Hodgkin Lymphoma Reveals Its Immunomodulatory Role**
Mangiaterra TS, Lindl KE, Jiménez OE, Attardo A, García Lombardi M, Soria M, De Matteo E, Chabay PA
24. **Immunogenetic Determinants of Viral Persistence in Breast Tumorigenesis: An In Silico HLA Binding Affinity Analysis Immunomodulatory Role**
A. Salman Muhammad, B. Khan Hayat
25. **Immune-mediated viral clearance and cellular mechanisms of immune memory in MmuPV1 infection**
Lam Khue Pham, Donghwan Jeon, Ella T. Ward-Shaw, Andrea Bilger, Denis Lee, Rong Hu, Allison Geiger, Paul F. Lambert
26. **Disruption of Host Innate Immune Response by HAdV-C5 via Human Ubiquitin E3 Ligase UBR4**
L. Fulham, N. Casiano, J. Rempel, R. Helwer, P. Pelka
27. **The Balance Between Immune Surveillance and Viral Immune Evasion Drives the Persistence of Distinct HPV Lifecycle States**
A. Davies, F. Pan, A. Aiyenuro, K. Schichl, W. Chen, F. Inturrisi, N. M. Diwan, T. Omar, S. Sayed, J. Lukorito, N. Mugo, N. Egawa, H. Griffin, S. de Sanjose, M. Schiffman, M. Chung, J. Doorbar
28. **Elucidation of a B cell specific inflammatory pathway that resembles the response to EBV infection**
M. A. M. Hill, S. J. Kim, F. A. Dick
29. **Modulation of Intrinsic Immunity by Merkel Cell Polyomavirus in Skin Organoids**
L.M. Röpke, C. Schmidt, V. Brinschwitz, C. Conze, S. Krasemann, L. Allweiss, M. Dandri, A. Hansen, A. Grundhoff, S. Albertini, N. Fischer
30. **EBV inhibits antiviral immunity through the generation of MDSCs in systemic CAEBV disease and EBV-associated HLH**
Zhaoqin Zhang, Paul Collins, Sara Anisi, Alex Glover, Matthew Blake, Sophie Chander, Claire Shannon-Lowe
31. **Breaking the balance: Human papillomavirus E7 interrupts IL-18 inflammatory signaling in head and neck cancers**
A.M. Evans, W. Anderson, A.H. Karimi, W. Al Jawhri, J.S. Mymryk

32. **Characterization of the immune microenvironment at the sites of cervical HIV/HPV co-infection**
F. Pan, A. Davies, A. Aiyenuro, K. Schichl, F. Inturrisi, N. M. Diwan, T. Omar, S. Sayed, J. Lukorito, N. Mugo, N. Egawa, S. Sanjosé, M. Schiffman, M. Chung, J. Doorbar
33. **Assessing HPV type specific immune interactions influencing persistence in tonsil epithelia**
Grace Akinyi Odongo, Shweta Manoharan, Jack Ferguson, Sally Roberts, Jo Parish
34. **Viral genome state and host immunity in HPV-driven cervical cancer: insights from a longitudinal cohort in India**
Keshav Saini, Muneeb Pervez, Manpreet Kaur, Iman Dandapath, Andreas Wieland, Lawrence Banks, Rafi Ahmed, Murali-Krishna Kaja, Nilanchali Singh, Anmol Chandele

SESSION IV. ONCOGENESIS 1

Chairs: Karl Munger and Vjeko Tomaic

Abstract 35-48

35. **HPV E6/E7 promotes TBX3 oncogenic activity through CDK5-mediated phosphorylation**
Sharon Prince, Carly Burmeister, Michael Myers, Lawrence Banks
36. **Understanding oncogene-induced replication stress in tumorigenesis using HPV disease model**
Christy S Varghese, James A Scarth, Molly A Guscott, Nisha Gangadharan, Jason Parsons, Michael A Boemo, Sarah E McClelland, Eva Petermann, Joanna L Parish
37. **Host genetic landscape of HPV E6/E7-driven immortalization and transformation**
Danny Papini, Leah Soriaga, Kathryn E Woods, Kyoungwha Pang, Chukwudumebi Okonkwo, Jayoung Choi, Zeyu Zhu, Suji Kim, Alina Xiaoyu Yang, Amalio Telenti, Karl Munger, Elizabeth A White, Seungmin Hwang
38. **mEEP, a novel syngeneic model of HPV+ oropharyngeal carcinoma**
Kimberly Manning, Anna Macmanus, Angelyn Campillo, Lovely Raghav, Erqianqian Ye, Devraj Basu, Sydney Shaffer, Ahmed Diab
39. **HPV16 E7 Reprograms Glutamine Metabolism to Promote Metabolic Plasticity in HPV-Associated Cancers**
V. Georgiou, V. Andreou, I. Shanlitourk, K Strati
40. **Lipid reprogramming of stratified squamous epithelium by the high-risk HPV E6 and E6/E7 oncoproteins**
Megan E Spurgeon, Taylor Lange, Alexandra Baty, Helena Li, Paul F. Lambert, Kenneth D.R. Setchell, Susanne I. Wells, Xueheng Zhao
41. **APOBEC mutagenesis in cancers associated with DNA tumor viruses**
Reuben Harris
42. **Non-CpG and CpG methylation in Merkel cell carcinoma**
Ilies Benotmane, Lisa Boxer, Jaehyuk Choi, Kenneth Tsai, James A DeCaprio, Gabriel Starrett

43. **NEDD8-dependent Proteasomal Degradation of p53 by the Beta-HPV49 E6 Oncoprotein is Independent from E6AP, MAML1 and MDM2**
Meret Beyer, Tina Rehm, Leonie Brosch, Thomas Iftner, Frank Stubenrauch
44. **Biochemical Activity of HPV16 E6 and E7 Variants Does Not Correlate with Cancer Association**
Miranda Grace, Harshita Beeravolu, Ahmad Alhamshari, Josipa Skelin, Si-Young Kiessling, Andrew Bohm, Elizabeth A. White, Karl Munger
45. **YAP1/HMGCS1 signaling axis regulates Clamp Loader Rad17-dependent lipid droplet formation in cervical cancer**
Mengda Niu, Shiyuan Hong
46. **Inactivation of the RB1 and PTPN14 cooperatively enables the carcinogenic activity of the human papillomavirus E7 oncoprotein**
Pushkal Sinduvadi Ramesh, Angelo A. Nicolaci, Leah E. Graham, Jennifer M. Binning, Karl Munger, Elizabeth A. White
47. **HPV E6/E7 promote the interaction of TBX3 with its oncogenic partners, Hsc70 and nucleolin, in cervical cancer**
Carly Burmeister, Lawrence Banks, Michael Myers, Sharon Prince
48. **Toll-like Receptor 3 (TLR3) and E7-induced lnc-FANCI-2 in Cervical Cancer**
Lulu Yu, Haibin Liu, Vladimir Majerciak, Zhi-Ming Zheng

SESSION V. VIRUS ENTRY & INFECTION MECHANISMS

Chairs: Michelle Ozbun and Colin Crump

Abstract 49-56

49. **Investigating the Trafficking Mechanisms of Merkel Cell Polyomavirus (MCPyV)**
Isabel Amaya, Andrew Ampomah, Alan Marshall, Chelsey Spriggs
50. **Unravelling the Role of CFTR in BK polyomavirus Infection**
Gemma Swinscoe, Margarita-Maria Panou, Michelle Antoni, Eleni-Anna Loundras, Matthew Welberry-Smith, Andrew Macdonald
51. **A Forward Genetics Platform for Papillomavirus Research**
Yuka Takeo, Sydney Hirsch, Daniel DiMaio
52. **The human papillomavirus L2 protein in the capsid is an ensemble of related structures poised to exit the virus particle**
Changin Oh, Huaxin Yu, Patrick Buckley, Frank Horrigan, Kashif Mehmood, Jeongjoon Choi, Jun Liu, and Daniel DiMaio
53. **Functional elements of the Human Papillomavirus L2 protein act sequentially from its C-terminus during virus entry**
Jeongjoon Choi, Changin Oh, Lisa M. Petti, Bayan Galal, Daniel DiMaio

54. **Genetic complementation studies of Human PapillomaVirus type 16 minor capsid protein L2 mutations that prevent infection**
Z. Guan, J. Terrell, R.B.S. Roden
- 54a. **Interplay Between Promyelocytic Leukemia Nuclear Bodies and Phospholipases C Facilitates Early Events in the HPV16 Lifecycle**
A. Kushwaha, TR. Keiffer, M. Bienkowska-Haba, M. Represa-Perez, M. Sapp, K. Zwolinska
55. **Sp140L is a Novel Restriction Factor of Herpesvirus Infection**
Wiyada Wongwiwat, Jana Cable, Micah Luftig, Robert White
56. **Mutant mania! Generating E1A HAdV mutants to investigate the role of E1A-Protein Kinase A interactions during HAdV infection**
K. Palmateer, J. Mymryk

SESSION VI. LIFE CYCLE

Chairs: Lou Laimins and James DeCaprio

Abstract 57-70

57. **The development of a kidney organoid model of JC Virus infection**
Si Jie Tang, Stephen Leon-Icaza, Irene Cortese, Colin Crump
58. **Unraveling Merkel Cell Polyomavirus Infection Dynamics and Persistence in Human Hair-Bearing Skin Organoids Using Multi-omics**
Silvia Albertini, Manja Czech-Sioli, Lisann M. Roepke, Claudia Schmidt, Veronika Brinschwitz, Emanuel Wyler, Markus Landthaler, Sanamjeet Viridi, Patrick Blümke, Susanne Krasemann, Lena Allweiss, Maura Dandri, Christian Conze, Carola Schneider, Rudolf Reimer, Arne Hansen, Adam Grundhoff and Nicole Fischer
59. **Cellular origin of cervical reserve cells: primary target for HPV infection and the onset of cervical neoplasia and dysplasia**
Heather Griffin, Ademola Aiyenuro, Aslam Shiraz, Norman Shreeve, Mercedes Jimenez-Linan, Nagayasu Egawa& John Doorbar
60. **Exploring the functional significance of the interaction between the HPV capsid protein L2 and the oncogenic transcription Factors TBX2 and TBX3 in the HPV life Cycle**
Mr MGE Goldschagg, Dr SF Khan, Dr L Banks, A/Prof G Schäfer, Prof S Prince
61. **Investigating the interplay between SV40 chromosome architecture and activity**
M. Lano, B. Milavetz
62. **Host chromatin surveillance reshapes hepatitis B viral gene expression and interplay with endogenous retroelements**
Xiaxuan Zhu, Senko Tsukuda, Daisy Jennings, James Docker, Rebecca V. Berrens, James M. Harris and Jane A McKeating
63. **Cloning and Analysis of an Epstein-Barr virus Strain from an LCL Established with virus from Kenyan Breast Milk**
A. Li, L. Granger, W. Wongwiwat, A. Bayoumy, R. Rochford, R.E. White

64. **NFX1-123 is required for keratinocyte growth, differentiation, and HPV 16 infection maintenance**
Maura A. Dankoski, DeShawn Thompson, Kevin M. Quist, Rachel A. Katzenellenbogen
65. **Understanding Immune-Mediated Resolution of HPV-Related Disease and the Control of Subclinical Infections**
W. Chen, H. Griffin, N. Egawa, A. Aiyenuro, A. Davies, K. Schichl, F. Pan, N. Diwan, T. Omar, F. Inturrisi, S. Sayed, J. Lukorito, N. Mugo, M. Schiffman, S. de Sanjosé, M. Chung, J. Doorbar
66. **Stochastic Modeling of Epithelial Homeostasis in persistent HPV16 and HPV11 infection**
A. Giarretta, Y. Chen, G. Pillonetto, N. Egawa, B. D. Simons and J. Doorbar
67. **Mitochondrial ROS levels are enhanced by the adenovirus E4orf4 protein and play a role in viral replication and virion stability**
Amir basis, Hanan Taha, Rakefet Sharf and Tamar Kleinberger
68. **Merkel cell polyomavirus small T antigen regulates the progression of the viral life cycle by promoting the maturation of late transcripts**
Masahiro Shuda, Jeffery Nurdin, Amanda E. Moore
69. **Investigating the spatial localisation of the HPV16 late protein, L1 and HPV16 virions in organotypic raft cultures**
Anna Kirk, Andrew Stevenson, Swetha Vijayakrishnan, Sheila V Graham
70. **One virus, two pathways – Lytic and nonlytic cell egress**
U.F. Greber, C. Bircher, M. Suomalainen

SESSION VII. GENE EXPRESSION

Chairs: Sheila Graham and Thomas Zheng

Abstract 71-79

71. **Deregulation of high-risk HPV in cervical precancer centres around the crypt entrance epithelial niche**
Schichl, K., Aiyenuro, A., Egawa, N., Griffin, H., Omar, T., Ordi, J., Kelly, H., del Pino, M., de Sanjose, S., Schiffman, M., Sicheo, L., Talpe-Nunes, V. & Doorbar, J.
72. **HPV18 regulates alternative splicing of E6/E7 through PRMT1-dependent m6A methylation of viral mRNA**
K. King, D. Williams, D. Kosanke, K. Van Doorslaer
73. **The role of N6-methyladenosine in regulating the expression of HPV capsid transcripts**
C. Arnoldy, K. King, R. Jackson, K. Van Doorslaer
74. **The mammalian DREAM complex regulates gene expression and DNA damage repair to impact longevity**
P. Perampalam, D. T. Passos, Z. Koch, L.B. Alexandrov, T. Ideker, F. A. Dick
75. **PPAR α -activated transcriptome of HPV16(+) oropharyngeal cells**
R. Jackson, A. Char, H. Nguyen, C. Arnoldy, K. Van Doorslaer

76. **Degradation of Mettl3 and Mettl14 by high-risk E6 stabilizes RNA:DNA hybrid formation and alters the epitranscriptome of HPV positive cells**
Conor W. Templeton, Jasmine S. Gulik, Arushi Vats, Laimonis Laimins
77. **How does alternative splicing shape HPV E6/E7 evolution, or the other way around?**
Z. Jiang, L. Lindquist, L. Wang, J. Esbjörnsson, N. Kajitani, S. Schwartz
78. **Mechanisms of HPV16 oncogenicity regulation through splicing by TRAP150**
Lourenço Roque Pombo Cardoso, Naoko Kajitani, Stefan Schwartz
79. **PTPN14 is a transcriptional target of specific isoforms of p63**
Leah E. Graham and Elizabeth A. White

SESSION VIII. ONCOGENESIS 2

Chairs: Lawrence Banks and Paola Blanchette

Abstract 80-88

80. **Contributions of small DNA tumor viruses to oncoprotein-induced replication stress**
Christopher D. Collins, Marcel Morgenstern, Drew Jordahl, Tejas Sabu, Lauren Dempsey, Katie Overmyer, Josh Coon, Kavi Mehta, and Megan E. Spurgeon
81. **KAT5 (TIP60) Is Required for ST- MYCL- Driven Chromatin Activation and Oncogenic Transcription in Merkel Cell Carcinoma**
Rodrigues, JS, Cushman, CH, Frost, TC, Rivas, HG, Paulo, JA, Long, H, DeCaprio, JA
82. **Dissecting the role of genomic instability in human papillomavirus (HPV)-driven cancer initiation**
James A Scarth, Christy S Varghese, Molly A Guscott, Nisha Gangadharan, Michael A Boemo, Joanna L Parish, Eva Petermann, Sarah E McClelland
83. **HPV16 E6 Sustains a DLL4–Notch1 Proliferative Reserve Cell Identity Linked to Cervical Cancer Prognosis**
M. Khelil, H. Griffin, M.C.G. Bleeker, R.D.M. Steenbergen, K. Zheng, T. Saunders-Wood, S. Samuels, J. Rotman, W. Vos, B.E. van den Akker, R.X. de Menezes, G.G. Kenter, J. Doorbar, E.S. Jordanova
84. **HPV Status Defines MBD2-Dependent Regulation of Cellular Plasticity in Head and Neck Cancer**
Izge Shanlitourk, Theofano Panayiotou, Sousana Sachmpazidou, Katerina Strati, Evelina Charidemou, Antonis Kirmizis, Katerina Strati
85. **Investigating Anti-Retroviral Therapy-Induced Stemness and Epithelial Mesenchymal Transition Shifts That May Enhance Susceptibility to HPV16 Driven Oropharyngeal Carcinogenesis**
A. Jesus Avila, B. Craig Meyers
86. **Integrative structural analysis of the interaction between the onco-protein E7 of human papilloma virus 16 and the clathrin adaptor protein 2**
F. Lapenta, Bharti, S. di Marco, S. Covaceuszach, P. Pompach, N. Kavcic1, A. Magistrato, S. Onesti, N. Skoko, L. Banks

87. **SIRT1 inhibition disrupts replication-checkpoint control and reveals a p53-p21 vulnerability in HPV-driven cancers**
M. Pozzi, I. Lo Cigno, F. Calati, C. Girone, M. Catozzo, F. Pezzoni, D. Lukác, A. Marazuela, R. Moro, C. Borgogna, A. Cuomo, S. Chiocca, L. Penengo, T. Bonaldi, A. Vaquero, P. Galanos, M. Gariglio
88. **Diagnostic Utility of HPV-16/18 E6 mRNA Fold Change Measured by In-House qPCR in Cervical Cancer Triage for Differentiation of CIN3 and Cervical Cancer from Lower-Grade Lesions**
Halima Khanom Antora, Mymuna Binte Mosaddeque, Nazmoon Nisa Mim, Jarin Tasnim, Nilufa Parvin, Saif Ullah Munshi

SESSION IX. PATHOGENESIS

Chairs: Megan Spurgeon and Tim Fenton

Abstract 89 - 101

89. **Macaca mulatta Papillomavirus Type 1 and Simian Immunodeficiency Virus Co-Infections in Rhesus Macaques to Model Persistent Oral Human Papillomavirus and Human Immunodeficiency Virus Co-Infection and Oropharyngeal Cancer Induction**
Varsha Srinivasan, Raquela J. Thomas, Amy L. Knight, Vicki Traina-Dorge, and Michelle A. Ozbun
90. **MicroRNA-Mediated Regulation of Matrix Metalloproteinase Inhibitors in HPV-Transformed Cells**
Amanda Campos Nocera, Suellen Herbster, Gabriela dos Santos, Telma Monezi, Edna Teruko Kimura, Enrique Boccardo
91. **Estrogen Receptor α (Esr1) Mediates Estrogen's Ability to Promote Papillomavirus-induced Cutaneous Disease in Male and Female Mice**
Sheikh A. Umar, Wei Wang, Donghwan Jeon, Lam Khue Pham, Ella T. Ward-Shaw, Denis Lee, Rong Hu, Andrea Bilger, Megan E. Spurgeon, Paul F. Lambert
92. **Single-cell RNA sequencing reveals potential tumor-associated macrophage-mediated immunosuppression in equine papillomavirus type 2-associated squamous cell carcinoma**
Nadine Angie Werlen, Paula Grest, Michelle Jackson, Christoph Koch, Paul Gueguen, Pamela Nicholson, Anna Sophie Ramsauer, Cornel Fraefel
93. **Beyond the Infected Cell: Reframing HPV Pathogenesis Through the Microenvironment**
Austin J. Witt, Claire D. James, Jenny Roe, Xu Wang, Mohammed Abdulhadi, Ying Liu, Ahmed Diab, Devraj Basu, Ryan J. Zoldork, Quinn T. Easter, Kevin M. Byrd, Iain M. Morgan, Molly L. Bristol
94. **HPV Infection at the Cervical Transformation Zone: Reserve Cell Biology, and the Risk of HSIL Recurrence**
Ademola Aiyenuro, Konstanze Schichl, Heather Griffin, Silvia de Sanjose, Tanvier Omar, Jaume Ordi, Helen Kelly, Nagayasu Egawa, Shahin Sayed, Judith Lukorito, Nelly Mugo, Marta del Pino, Nazha Diwan, Chemtai Mungo, Mark Schiffman, Michael Chung, John Doorbar

95. **Spatial analysis of the chronic hepatitis B and D liver reveals new aspects of viral pathogenesis and cancer**
Nadina Wand, James Lok, James Harris, Senko Tsukuda, Maria Veretennikova, Badran Elshenawy, Ian Fiddes, Medhi Boutasbih, Joshua Bull, Carl Lee, Shihong Wu, Joanna Hester, Ivana Carey, Helen Byrne, Fadi Issa, Kosh Agarwal, Yoh Zen & Jane A McKeating
96. **Single-Cell Analysis of HPV-Dependent and HPV-Independent Epithelial Transformation Pathways in HNSCC**
C.M. Rivera-Cruz, M. C. Bedard, M. Adam, S.I. Wells
97. **HPV16 genomic status stratifies risk of disease recurrence in oropharyngeal squamous cell carcinoma**
Victor Malassigné, Julien Puech, Sandrine Imbeaud, Anne Auperin, Caroline Even, Dac Hung Nguyen, Maxime Wack, Bastien Rance, Léa Benyakar, Léa Picavet, Victor Euzen, Laurent Bélec, Narjis Boukli, Sarah Kreps, Emmanuelle Fabiano, Anne-Laure Gaultier, Benjamin Morin, Imane Doghman, Laure Monard, Michael Chevrot, Mélodie Bonvalet, Jessica Zucman-Rossi, Cécile Badoual, Aurélien Marabelle, Pierre Blanchard, Haitham Mirghani, Hélène Péré, David Veyer
98. **FAM151B-DT: A Dual-Function LncRNA Linking HPV Status to Prognosis in Head and Neck Cancer**
D.A. Theobald, J.A. Cogan, R. Cassidy, M.R. Patterson, J.A. Scarth, A. Samson, A. Whitehouse, A. Macdonald
99. **Cervical Cell Lift Enables Tissue-Sparing Surface Mapping, Biological Grading, and Longitudinal Tracking of HPV-Associated Cervical Lesions**
Nagayasu Egawa, Aslam Shiraz, Mai Miyazaki, Takeshi Motohara, Akiho Nishimura, Rutendo Nyagumbo, Robin Crawford, John Doorbar
100. **A highly pathogenic HPV16 sub-lineage exhibits sustained oncogene expression and genome amplification**
Tafadzwa Chihanga, Denis Lee, Taylor Lange, Zane Huang, Dylan Schaap, Kathryn A. Wikenheiser-Brokamp, Paul F. Lambert, Susanne I. Wells
101. **Contribution of [68Ga]68Ga-RGD PET in the evaluation of adulthood gliomas associated with suspected viral aetiology**
Gill Boshomane

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Chairs: Joanna Parish and Koenraad Van Doorslaer

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102. **Hyperactivating the p53 and RB1 tumour suppressor gene for cervical cancer therapy**
Vindya Ranasinghe, Yusif Idris, Adi Idris, Alan Munn, and Nigel McMillan
103. **Dual targeting of HPV E6 and cancer mutant p53 by a DARPin defines a new p53 rescue strategy**
P. Münick, D.I. Balourdas, J.S. Funk, B. Yüksel, D. Mavridi, J. Heftel, B. Dreier, J.V. Schaefer, B. Schäfer, S. Knapp, T. Telatar, M. Hufbauer, A. Plückthun, T. Stiewe, A.C. Joerger, B. Akgül and V. Dötsch

104. **A novel BK polyomavirus replication assay reveals strain-dependent sensitivity to TNF- α and broad antiviral activity of bexarotene**
Lise Lauterbach-Rivière, Pascal Feld, Lina Kathrin Toews, Lucia Thuringer, Katharina Martha Götz, Lars Möller, Michael Laue, David Schmit, Danilo Fliser, Thorsten Lehr, Sigrun Smola
105. **Discovery of Phospho-BRD4 IDR-Targeting Compounds as Anti-HPV and Anticancer Agents**
Shwu-Yuan Wu, Cheng-Ming Chiang
106. **Disrupting the interaction between Polo-like kinase 1 and HPV oncoproteins: a previously unidentified therapeutic horizon for HPV?**
Ho Yin Luk, Lixin Wang, Man Kin Yim, Siaw Shi Boon
107. **Integrative multi-omics reveals HPV-driven ganglioside metabolism as a candidate for drug repurposing**
Taylor E. Lange, Kanimozhi Vairamani, Myka Radecki, Cristhian Salas-Quinchucua, Megan Spurgeon, Marie C. Matrka, Kashish Chetal, Paul F. Lambert, Nathan Salomonis, Kathryn A. Wikenheiser-Brokamp, Lindsey E. Romick, Kenneth D.R. Setchell, Xueheng Zhao, Susanne I. Wells
108. **Organoid models for assessment of novel therapeutics against bk polyomavirus**
Leon-Icaza S.A., Caller L., Tang S.J., Mahbubani K.T., Liang K., Schutgens F., Slaats G., Saeb-Parsy K., Rookmaaker M.B., Crump C.
109. **Development of an effective in vivo siRNA treatment for Merkel cell carcinoma**
Trairong Chokwassanasakulkit, Richard Tohill, Nigel AJ McMillan
110. **A Phenotypic Screening Platform Identifies Candidate Modulators of HPV16 E6-Driven Basal Epithelial Homeostasis for Viral Reservoir Clearance**
Nagayasu Egawa, Ke Zheng, Yuwen Chen, June See Chong, Longsiang Xu, John Doorbar
111. **Targeting HPV oncoproteins using novel antibody therapeutics**
Ilham Bahhar, Jacob P. Conarty, Grant Brennan, Andreas Wieland
112. **HPV-Specific Reactions of Cancer Cells to the SHetA2 Investigational Drug**
D. Benbrook, J. Garland, S. Hussain
113. **Defining the Mechanisms of MEK Inhibitor-Induced Tumor Regression Using a Preclinical Model of Human Papillomavirus Precancer**
G.C. Carrasco, A.J. Luna, K. Hoff, R.J. Thomas, F.A. Schultz, H. Kang, J.S. Edwards, M.A. Ozbun
114. **Mechanisms of chemoradiotherapy resistance and sensitivity in HPV-positive anal squamous cell carcinomas**
J A Cogan, R Samuel, D A Theobald, E Cheadle, A Macdonald

POSTER SESSIONS

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115. **Adenovirus regulates the RAD18-HLTF-USP1 axis to promote the monoubiquitylation of PCNA during infection**
Kholoud Alharbi, Tarana Sharmin and Andrew S. Turnell
116. **Altered mitochondrial dynamics during HPV16 infection in tonsillar crypt and surface epithelium**
A. Char, R. Jackson, H. Nguyen, D. Williams, K. Van Doorslaer
117. **APOBEC3A/B-mediated oncogene regulation in HPV-induced cell transformation**
Bhavani Gangupam, Sneha Soni, Justyna Broniarczyk, Nika Lovšin, Martina Bergant Marušič
118. **Biophysical and computational analysis of HPV16 E7 interactions with host trafficking adaptor proteins**
Bharti, Fabio Lapenta, Silvia Onesti, Lawrence Banks
119. **Comparing the ability of HPV oncoproteins to promote basal epithelial identity**
Madeline Carr, Molly Patterson, Joshua Hatterschide, Elizabeth A. White
120. **Defining the Role of Epithelial Wounding in Persistent Papillomavirus Infections**
Matthew J. Cabrales, Varsha Srinivasan, Garrett C. Carrasco, Michelle A. Ozburn
121. **Expanding Roles for CircRNA in the HPV Life Cycle**
Kaitlyn E. Walsh, Charlotte Pollack, Zili Zhai, Josh Wissell, Richard C. Wang
122. **Exploring the Interaction between Aurora Kinases with HPV on the disease promotion**
Li Xin Wang, Siaw Shi Boon
123. **Functional genomics screening of host genes involved in long-term maintenance of HPV-immortalized cells**
Kathryn E. Woods, Danny Papini, Leah B. Soriaga, Seungmin Hwang, Karl Munger, Elizabeth A. White
124. **High-Risk α -HPV E6 Oncoproteins Interact with MAML1 and Modulate Notch Signaling to Delay Keratinocyte Differentiation**
Josipa Skelin, Toni Rendulić, Katarina Soža, Martin Hufbauer, Baki Akgül, Vjekoslav Tomačić
125. **HPV L1-specific T-cell responses dominate across the clinical spectrum from asymptomatic infection to cervical cancer**
Manpreet Kaur Saini, Muneeb Parvez, Keshav Saini, Nilanchali Singh, Murali-Krishna Kaja, Anmol Chande
126. **HPV16 E6-Driven Upregulation of lncRNA NBAT1 in Head and Neck Squamous Cell Carcinoma**
Luka Mihaljević, Franciska Rohlik, Antonia Jakovčević, Katarina Soža, Vjekoslav Tomačić, Josipa Skelin

127. **HPV16 exploits the DNA nucleases DNA2 and FEN1 during genome amplification**
Jenny D. Roe, Elinor Lu, Austin Witt, Sarita Giri, Molly L. Bristol, Xu Wang, Iain M. Morgan, Claire D. James
128. **HPV18 increases cytoplasmic PRMT1 and alters the cellular methylome**
D. P. Kosanke, K. M. King, K. Van Doorslaer
129. **HPV8-E6 drives coordinated transcriptional and epigenetic reprogramming of keratinocytes**
M. Hufbauer, A. Syed, F. Bormann, D. Hasche, M. Rodríguez-Paredes, P. Laine, A. Honkima, P. Auvinen, E. Auvinen, B. Akgül
130. **Independent proviral and antiviral host factors recognise the same capsid protein in divergent human herpesviruses**
Yiqi Zhao, Sarah Probert, Jan Birkel, Xin Liu, Yaling Shi, Olivia Shulan Yang, Kangyan Zhao, Yongxu Lu, Geoffrey L. Smith
131. **Investigating the Molecular Mechanism of Merkel Cell Polyomavirus Nuclear Entry**
Doris Cruz Alonso, Isabel Amaya, Chelsey Spriggs
132. **MCPyV Large T Antigen–Host Chromatin Interactions Defined by Proximity Labelling**
Mari T., Brinschwitz V., Ohnezeit D., Czech-Sioli M., Ramamurthy V., Theiss J., Huang J., Siebels B., Grundhoff A., Fischer N.
133. **Mitochondrial targets of the adenovirus E4orf4 protein**
Rakefet Sharf, Amir Basis, Hanan Taha, Keren Nebenzahl-Sharon, Tamar Kleinberger
134. **Novel Insights into HPV-Mediated Carcinogenesis**
Katarina Soza, Josipa Skelin, Lawrence Banks, Vjekoslav Tomaic
135. **Pharmacological Induction of Matrix Metalloproteinase Inhibitors in Human Papillomavirus-Transformed Cells**
Amanda Campos Nocera, Suellen Herbster, Gabriela dos Santos, Enrique Boccardo
136. **Phosphorylated HPV 16 E7 Perturbs Vangl1 Trafficking to Drive Polarity Loss**
Ifeoluwa D. Gbala, Om Basukala, Amira Zine El Abidine, Michael P. Myers, Rebecca Bertolio, Giannino Del Sal, Lawrence Banks
137. **Presence of koilocytes in actinic keratosis identifies those at high risk of developing keratinocyte carcinoma**
H.J. Morgan, R.A. Deorukhkar, W. Tuckwell, B.Y. Shorning, N. Malladi, W.J. Watkins, M. Rashid, M. Garigli, B. Akgül, G.K. Patel
138. **Recent Trends in HPV-Positive Oropharyngeal Squamous Cell Carcinoma in Northern Israel**
Shaked Ben-Porat, Saeed Salman, Sivan Biterman-Fisher, Nili Stein, Edmond Sabo, Salem Billan, Ilana Doweck
139. **Regulation of HPV-16 Infection by Ubiquitination of the L1 Major Capsid Protein**
Oscar Trejo-Cerro, Martina Bergant Marušič, Patryk Włodarczyk, Urška Repnik, Nika Lovšin, Michael P. Myers, Robert L. Garcea, Lawrence Banks, Justyna Broniarczyk

- 140. Spatial Mapping of Cervical Lesions Using Cervical Cell Lift in a Japanese Cohort: Diagnostic Concordance with Histology**
M. Miyazaki, N. Egawa, L. Zhang, A. Shiraz, A. Nishimura, T. Motohara, R. Crawford, J. Doorbar
- 141. The Association of E6AP with E6 Proteins of African-Prevalent HPV Types Encountered in Cervical Cancer**
Saredo Said Abdi, Ifeoluwa D. Gbala, Michael Myers, Nezka Kavcic, Fabio Lapenta, Miranda Thomas, Lawrence Banks
- 142. The Role of Sp100 in Generating an Antiviral Chromatin Environment in HPV-infected cells**
A. Warburton, T.E. Markowitz, J.D. Stamos, A.N. Della Fera, A.A. McBride
- 143. Uncovering PRMT1 as an Anti Oncogenic Modulator of HPV-18 E6 in Cervical Cancer**
Cheshta Shandilya^{1,2}, Ifeoluwa D. Gbala¹, Michael Myers³, Lawrence Banks¹