XXII International Poxvirus, Asfarvirus and Iridovirus Conference

May 26-31, 2018
Academia Sinica, Taipei, Taiwan

Organized by Wen Chang and Andrew Mercer
### Daily Program

**Saturday, May 26**

- 16:00-19:00  Registration (South Rest Area)
- 19:00-21:00  Welcome Reception (4F, Front Area)

**Sunday, May 27**

#### 09:00-10:30  
3F, International Conference Hall

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<tr>
<th>Session 1- Virus Entry</th>
<th>Chairs: Bernard Moss, Subbian Sathesh Panayampalli</th>
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<tr>
<td><strong>09:00-09:15</strong></td>
<td>Introduction</td>
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</table>
| **09:15-09:30**  | O1-1  
Super-resolution imaging reveals vaccinia fusion machinery proteins are polarised to drive fusion efficiency  
Robert Gray, David Albrecht, Ricardo Henriques, Jason Mercer |
| **09:30-09:45**  | O1-2  
Vaccinia viral A26 protein contains a pH-sensitive domain that is critical for mature virus endocytosis and fusion regulation  
| **09:45-10:00**  | O1-3  
A Structural and Functional Investigation of Vaccinia Virus Envelope Protein A26 and A27 Complex  
Kathleen Joyce Carillo, Petra Štěrbová, Yu-Sheng Wang, Gian Coronel, Wen Chang, Der-Lii Tzou |
| **10:00-10:15**  | O1-4  
The Entry of Extracellular Virus is Expedited by F13  
Brian Ward, Peter Bryk |
| **10:15-10:30**  | O1-5  
Virion protein juxtaposition in situ  
Paul Gershon, Yeva Mirzakhanyan |
| **10:30-11:00**  | Coffee Break (3F, Back Area) |
### Session 2 - Gene Expression and Genome Replication

**Chairs:** Paula Traktman, Zhilong Yan

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<tr>
<th>Time</th>
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<tr>
<td>11:00-11:15</td>
<td><strong>Introduction</strong></td>
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<tr>
<td>11:15-11:30</td>
<td><strong>O2-1</strong>  Genetically Linked Vaccinia B1 Kinase and B12 Pseudok  Replication</td>
<td>Annabel Olson, Zhigang Wang, Matt Wiebe</td>
</tr>
<tr>
<td>11:30-11:45</td>
<td><strong>O2-2</strong> Interplay Between Vaccinia Virus and Host Proteins to Maintain Viral Genome Fidelity</td>
<td>Conor Templeton, Maciej Czarnecki, Matthew Greseth, Paula Traktman</td>
</tr>
<tr>
<td>11:45-12:00</td>
<td><strong>O2-3</strong> The vaccinia mRNA capping enzymes, either D1 or D12 with single amino acid substitution, co-operate with sheeppox virus E3 ortholog to determine the virus cell tropism</td>
<td>Jingxin Cao, Jessie Varga, Shaun Tyler</td>
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<td>12:00-12:15</td>
<td><strong>O2-4</strong> Role of the 5’-Poly(A) Leader in Vaccinia Virus Post-Replicative mRNA Translation</td>
<td>Pragyesh Dhungel, Shuai Cao, Zhilong Yang</td>
</tr>
<tr>
<td>12:15-12:30</td>
<td><strong>O2-5</strong> Poxviruses usurp ribosome quality control pathways to enhance viral protein synthesis</td>
<td>Stephen DiGiuseppe, Madeline Rollins, Derek Walsh</td>
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<p>| 12:30-14:00 | <strong>Lunch (4F, Dining Hall)</strong>                                           |                                                                               |</p>
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<tr>
<td>14:00-15:30</td>
<td><strong>Session 3- Virus Assembly and Trafficking</strong></td>
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<td><strong>Chairs:</strong> Michael Way, Pip Beard</td>
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<tr>
<td>14:00-14:15</td>
<td>Introduction</td>
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<tr>
<td>14:15-14:30</td>
<td>**O3-1 Membrane Biogenesis: Contributions of H7, L2 and Cellular</td>
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<td>Proteins</td>
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<tr>
<td></td>
<td>Matthew Greseth, Bethany Unger, Juliana Carten, Justin Radomski,</td>
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<td>Paula Traktman</td>
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<td>14:30-14:45</td>
<td>**O3-2 Forced Evolution of the Poxvirus Membrane Assembly Machine</td>
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<td>Reveals the Interlock of Two Components</td>
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<td>Yan Xiang, Xiangzhi Meng</td>
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<td>14:45-15:00</td>
<td><strong>O3-3 ESCRT Machinery in Poxvirus Wrapping and Egress</strong></td>
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<td></td>
<td>Moona Huttunen, Artur Yakimovich, Ian White, Janos Kriston-Vizi,</td>
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<td>Miguel Ángel Cuesta Geijo, Juan Martin-Serrano, Jason Mercer</td>
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<td>15:00-15:15</td>
<td>**O3-4 Septins suppress the release of vaccinia virus from infected</td>
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<td>Michael Way, Julia Pfanzelter, Serge Mostowy</td>
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<td>15:15-15:30</td>
<td>**O3-5 Loss of Actin-Based Motility Results in Loss of Ectromelia</td>
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<td>Virus Release in Vitro with Only a Minor Role for Spread in Vivo</td>
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<td>Melanie Duncan, Jacqueline Horsington, Gunasegaran Karupiah, Timothy</td>
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<td>15:30-16:00</td>
<td><strong>Coffee Break (4F, Gallery)</strong></td>
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<td>16:00-18:00</td>
<td><strong>Poster Session (4F, Gallery)</strong></td>
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<td>18:00-19:00</td>
<td><strong>Free time</strong></td>
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<td>19:00-21:00</td>
<td><strong>Dinner (4F, Front Area)</strong></td>
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<td>Time</td>
<td>Session O4</td>
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<td>09:00-09:15</td>
<td>O4-1</td>
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<td>09:15-09:30</td>
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<td>09:30-09:45</td>
<td>O4-2</td>
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<tr>
<td>09:45-10:00</td>
<td>O4-3</td>
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<td>10:00-10:15</td>
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<td>10:15-10:30</td>
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<td>10:30-11:00</td>
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<td>Time</td>
<td>Session 5 - Viral Structural Biology</td>
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<tr>
<td>11:00-11:15</td>
<td>O5-1 Crystal Structure of Vaccinia Viral A26 Protein&lt;br&gt;Hao-Ching Wang, Yu-Chun Luo, Wen Chang</td>
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<tr>
<td>11:15-11:30</td>
<td>O5-2 Structure of CUL3-RING E3 Ubiquitin Ligase in Complex with Vaccinia Virus Protein A55&lt;br&gt;Chen Gao, Mitchell A. Pallett, Rui-yao Zhang, Geoffrey L. Smith, Stephen C. Graham</td>
</tr>
<tr>
<td>11:30-11:45</td>
<td>O5-3 Grouper Iridovirus GIV66 is a Bcl-2 protein that inhibits apoptosis by exclusively sequestering Bim&lt;br&gt;Marc Kvansakul, Suresh Banjara, Jiahao Mao, Timothy Ryan, Sofia Caria</td>
</tr>
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<td>11:45-12:00</td>
<td>O5-4 Chemokine Binding Protein from Orf Virus Displays a New Twist on an Old Motif&lt;br&gt;Kurt Krause, Rafael Couñago, Karen Knapp, Yoshio Nakatani, Stephen Fleming, Lyn Wise, Andy Mercer</td>
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<tr>
<td>12:00-12:15</td>
<td>O5-5 Structural and Functional studies of Vaccinia Virus A6 Protein Reveals a Mechanism for Stabilizing Open-ended Crescent Membrane&lt;br&gt;Yan Xiang, Prabhat Pathak, Shuxia Peng, Xiangzhi Meng, Yue Han, Bing Zhang, Fushun Zhang, Junpeng Deng</td>
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<tr>
<td>12:15-12:30</td>
<td>O5-6 Structural Basis for the Inhibition of Vaccinia Virus Assembly by Rifampicin&lt;br&gt;Fasseli Coulibaly, Damia Garriga, Stephen Headey, Cathy Accurso, Menachem Gunzburg, Esthel Penard, Jacomine Krijnse-Locker, Martin Scanlon</td>
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12:30-14:00 Lunch (4F, Dining Hall)
**Session 6 - Virus and Host Interaction I**

**Chairs:** Geoffrey Smith, Covadonga Alonso

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<th>Presenters</th>
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<tr>
<td>14:00-14:15</td>
<td>O6-1</td>
<td>Introduction</td>
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<tr>
<td>14:15-14:30</td>
<td>O6-1</td>
<td>Vaccinia Virus BBK E3 Ligase Adaptor A55 Targets Importin-Dependent NF-κB Activation and Inhibits CD8+ T-Cell Memory</td>
<td>Geoffrey Smith, Mitchell A. Pallett, HongWei Ren, Rui-Yao Zhang, Simon R. Scutts, Laura Gonzalez, Zihan Zhu, Carlos Maluquer de Motes</td>
</tr>
<tr>
<td>14:30-14:45</td>
<td>O6-2</td>
<td>Poxvirus K3 family proteins mediate degradation of PKR through the neddylation pathway</td>
<td>Jingxin Cao, Yvon Deschambault, Jessie Varga, Shaun Tyler</td>
</tr>
<tr>
<td>14:45-15:00</td>
<td>O6-3</td>
<td>Vaccinia Virus C9 Ankyrin-Repeat/F-Box Protein is a Newly Identified Antagonist of the Type I Interferon-Induced Antiviral State</td>
<td>Bernard Moss, Ruikang Liu</td>
</tr>
<tr>
<td>15:00-15:15</td>
<td>O6-4</td>
<td>A conserved poxvirus protein remodels mTOR signaling to promote viral protein synthesis and block antiviral responses</td>
<td>Nathan Meade, Rita Verma, Hua Li, Colleen Furey, Sujata Jha, Derek Walsh</td>
</tr>
<tr>
<td>15:15-15:30</td>
<td>O6-5</td>
<td>The Poxvirus Orf Virus Modulates the Interferon Response</td>
<td>Stephen Fleming, Ryan Harvey, Sherief Riad, Basheer AlDaif, Andrew Mercer, Yan Xiang</td>
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<tr>
<td>15:30-16:00</td>
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<td>Coffee Break (4F, Gallery)</td>
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<td>16:00-18:00</td>
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<td>Poster Session (4F, Gallery)</td>
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<td>18:00-18:20</td>
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<td>Workshop on Women in Science (3F, 2nd Conference Room)</td>
<td>Rachel L. Roper</td>
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<td>18:00-18:10</td>
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<td>10 minutes Presentation of “Gender Bias in Science – data on bias and progress of women in science”</td>
<td>(for men and women)</td>
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<td>18:10-18:20</td>
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<td>Workshop: “Advice for women scientists beginning their careers”</td>
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<td>18:00-19:00</td>
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<td>Free time</td>
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**09:00-10:30**  
**3F, International Conference Hall**  
**Session 7- Virus and Host Interaction II**  
**Chairs:** Matthew Wiebe, Jia Liu

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<td>09:00-09:15</td>
<td><strong>Introduction</strong></td>
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| 09:15-09:30 | **O7-1**  
**Differential Innate Immune Signaling in Macrophages by Wild-Type Vaccinia Mature Virus and a Mutant Virus with a Deletion of the A26 Protein**  
Suktika Chandra, Siti Khadijah Kasani, Huei-Yin Cheng, Kun-Hai Yeh, Shu-Jung Chang, Paul Wei-Che Hsu, Shu-Yun Tung, Chung-Tiang Liang, Wen Chang |
| 09:30-09:45 | **O7-2**  
**SAMD9 and SAMD9L Constitute a Critical Host Barrier against Poxvirus Infection and Pathogenesis**  
Yan Xiang, Xiangzhi Meng, Fushun Zhang, Bo Yan |
| 09:45-10:00 | **O7-3**  
**Dual Inhibition of Type I IFN Production and Signaling by the Vaccinia Virus Host-Range Factor C7**  
Liang Deng, Ning Yang, Peihong Dai, Yi Wang, Weiyi Wang, Taha Merghoub, Jedd D. Wolchok, Stewart Shuman |
| 10:00-10:15 | **O7-4**  
**Role of Asparagine in Vaccinia Virus Replication**  
Anil Pant, Shuai Cao, Zhilong Yang |
| 10:15-10:30 | **O7-5**  
**Cowpox Virus - Host Interactions: Identification and Confirmation of Virulence Factors**  
Saskia Weber, Annika Franke, Donata Hoffmann, Aiste Tamošiūnaitė, Timo Schippers, Klaus Osterrieder, Martin Beer |

**10:30-11:00**  
**Coffee Break (3F Back Area)**
# Session 8 - Virus and Host Interaction III

**Chair:** Rachel Roper

### Introduction

**11:00-11:15 O8-1**  
**Host Defense Inhibition by African Swine Fever Virus Ubiquitin-Conjugating Enzyme**  
Covadonga Alonso, Lucía Barrado-Gil, Inmaculada Galindo, Jessica Comín, Raquel Muñoz-Moreno, Miguel Ángel Cuesta-Geijo, Javier Clemente, Carlos Maluquer de Motes

### Vaccinia virus inhibits cellular DNA sensing by preventing STING activation

**11:15-11:30 O8-2**  
**Vaccinia virus inhibits cellular DNA sensing by preventing STING activation**  
Iliana Georgana, Carlos Maluquer de Motes

### Adenosine Deaminase Acting on RNA 1 Associates with Orf Virus OV20.0 and Enhances Viral Replication

**11:30-11:45 O8-3**  
**Adenosine Deaminase Acting on RNA 1 Associates with Orf Virus OV20.0 and Enhances Viral Replication**  
Yeu-Yang Tseng, Gaun-Ru Liao, Jing-Yu Tseng, Charles E. Samuel, Wei-Li Hsu

### Identification of Cellular Factors involved in Vaccinia Virus infection by Genome-Wide CRISPR/Cas9 Pooled Genetic Screens

**11:45-12:00 O8-4**  
**Identification of Cellular Factors involved in Vaccinia Virus infection by Genome-Wide CRISPR/Cas9 Pooled Genetic Screens**  
Rafael Blasco, Maria M. Lorenzo, Angel Zaballos, Jerson Garita-Cambronero, Juana M. Sanchez-Puig

### Gut Microbiome Modifies Myxomavirus Serpin-derived Anti-Inflammatory Treatment and Disease Severity in Lethal Herpesvirus-Induced Vasculitis Mouse Model

**12:00-12:15 O8-5**  
**Gut Microbiome Modifies Myxomavirus Serpin-derived Anti-Inflammatory Treatment and Disease Severity in Lethal Herpesvirus-Induced Vasculitis Mouse Model**  
Jordan Yaron, Sriram Ambadapadi, Liqiang Zhang, Brian Mahon, Scott Tibbetts, Shahar Keinan, Arvind Varsani, Juan Maldonado, Alexandra Lucas

### ISG15 governs mitochondrial function in macrophages after Vaccinia virus infection

**12:15-12:30 O8-6**  
**ISG15 governs mitochondrial function in macrophages after Vaccinia virus infection**  
Manuel Albert Sola, Rebeca Acín-Pérez, Martina Bécares, Jesús Vázquez, José Antonio Enríquez, Susana Guerra, Susana Guerra García

### Conference Tour (Lunch provided on bus; dinner on own)

**12:30-18:30**  
Option 1: Hiking in National Yang-Ming Mountain  
Option 2: Taipei City Tour
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<td>09:00</td>
<td>O9-1</td>
<td>Immunogenicity and protective capacity of recombinant vaccinia virus MVA delivering influenza A virus M2 protein ectodomain (M2e) antigens</td>
<td>Asisa Volz, Kenny Roose, Xavier Saelens, Gerd Sutter</td>
</tr>
<tr>
<td>09:15</td>
<td>O9-2</td>
<td>Using synthetic biology to build better viral therapeutics</td>
<td>Ryan Noyce, Mira Shenouda, Megan Desaulniers, David Evans</td>
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<td>09:30</td>
<td>O9-3</td>
<td>Considerations for Clinical Studies Evaluating Medical Countermeasures for Poxviruses</td>
<td>Brett Petersen</td>
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<td>09:45</td>
<td>O9-4</td>
<td>Recombinant Canarypox vector, ALVAC, co-expressing rabies virus glycoprotein and OX40L protects dogs three years post vaccination</td>
<td>Teshome Mebatsion, Emily Atkins, Monica Figueiredo, Lauri Kreimeyer, Maya Scott-Garrard, Frederic David</td>
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<td>10:00</td>
<td>O9-5</td>
<td>Development of a multivalent capripoxvirus vaccine to protect against sheeppox, goatpox, peste des petits ruminants and Rift Valley fever</td>
<td>Shawn Babiuk, Thang Truong, Graham Blyth, Andrea Kroeker, Pravesh Kara, Arshad Mather, Lorne Babiuk, David Wallace</td>
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<td>10:30</td>
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<td>Coffee Break (3F, Back Area)</td>
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<td>Time</td>
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<td>11:00-11:15</td>
<td>O10-1</td>
<td>Antigen-dependent competition shapes the local repertoire of tissue-resident memory CD8+ T cells</td>
<td>Ingo Drexler, Andreas Muschaweckh, Veit Bucholz, Anne Fellenzer, Christian Hessel, Sha Tao, Ronny Tao, Dirk Busch, Thomas Korn, Wolfgang Kastenmüller, Georg Gasteiger</td>
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<td>11:15-11:30</td>
<td>O10-2</td>
<td>Cowpox Virus-mediated MHC class I Inhibition Evades Tissue-resident Memory CD8+ T Cell (TRM) Responses, but not TRM Formation</td>
<td>Elvin Lauron, Liping Yang, Dorothy Sojka, Michael Bern, Graham Williams, Adrianus Boon, Wayne Yokoyama</td>
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<td>11:30-11:45</td>
<td>O10-3</td>
<td>Molluscum contagiosum virus subverts MHC-I antigen presentation by targeting tapasin for degradation</td>
<td>Ian Harvey, Xiaoli Wang, Daved Fremont</td>
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<td>11:45-12:00</td>
<td>O10-4</td>
<td>Species-specific preservation of Antigenic Sites on vaccinia virus A27 protein homologues in the evolution of Orthopoxviruses</td>
<td>Henrike Ahsendorf, Li Lin Gan, Kamal Eltom, Ahmed Abd El Wahed, Sven-Kevin Hotop, Rachel Roper, Ulrike Beutling, Mark Brönstrup, Ronald Frank, Christiane Stahl-Hennig, Ludwig Hölzle, Claus-Peter Czerny</td>
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<tr>
<td>12:00-12:15</td>
<td>O10-5</td>
<td>Histone deacetylase 4 is needed for type I interferon signalling and is targeted by vaccinia virus protein C6</td>
<td>Yongxu Lu, Jennifer H. Stuart, Andrei I. Smid, Liane Dupont, Callum Talbot-Cooper, Joseph S. Snowden, Geoffrey L. Smith</td>
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<td>12:15-12:30</td>
<td>O10-6</td>
<td>The DNA sensor cGAS is essential for resistance to mousepox and its need is bypassed by exogenous cGAMP</td>
<td>Luis Sigal, Eric Wong, Maria Ferez-Ruiz, Colby Stotesbury</td>
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<td>12:30-13:45</td>
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<td>Lunch (4F, Dining Hall)</td>
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<td>13:45-14:00</td>
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<td>2020 Poxvirus Preview (3F, International Conference Hall)</td>
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<td>14:15-14:30</td>
<td>O11-1</td>
<td>NF-κB activation is a turn on for vaccinia virus phosphoprotein A49 to turn off NF-κB activation</td>
<td>Geoffrey Smith, Sarah Neidel, Hongwei Ren</td>
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<td>14:30-14:45</td>
<td>O11-2</td>
<td>Characterization of Novel Compounds with Anti-Virucidal Properties Against Orthopoxviruses</td>
<td>Jillybeth Burgado, Subbian Satheshkumar Panayampalli, Marissa Baker-Wagner, Vishwanath Lingappa, Susan Realegeno, Victoria Olson</td>
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<td>14:45-15:00</td>
<td>O11-3</td>
<td>Necroptosis Inhibition of Vaccinia Virus Pathogenesis in Infected Mice</td>
<td>Sambhavi Subramanian, Karen Kibler, Bertram Jacobs</td>
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<td>15:00-15:15</td>
<td>O11-4</td>
<td>Contribution to Poxvirus Pathogenesis of the Cellular Glycosaminoglycan Binding Properties of the Viral Type-I Interferon Binding Protein</td>
<td>Bruno Hernaez, Inmaculada Montanuy, Juan Alonso-Lobo, Antonio Alcami</td>
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<td>15:15-15:30</td>
<td>O11-5</td>
<td>IL-15 Protects CAST Mice from Lethal Infection with Monkeypox and Vaccinia Virus by Increasing NK Cell Proliferation and Interferon Gamma Production</td>
<td>Patricia Earl, Jeffrey Americo, Bernard Moss</td>
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<td>15:30-15:45</td>
<td>Coffee Break</td>
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Session 12 - Oncolytic Poxviruses in Cancers

Chairs: Grant McFadden, Eric Bartee

15:45-16:00 Introduction

16:00-16:15 O12-1 Reprogramming the tumour microenvironment of breast cancer with mutant vaccinia viruses
Brittany Umer, Ryan Noyce, Megan Desaulniers, Nicole Favis, James Lin, Rees Kelly, Mary Hitt, David Evans

16:15-16:30 O12-2 Myxoma virus virotherapy enhances dendritic cell immunotherapy in addition to cisplatin to improve treatment benefit in high-grade ovarian cancer preclinical model
Jia Liu, Steven Conrad, Bernice Nounamo, Martin Cannon

16:30-16:45 O12-3 Oncolytic Virotherapy with Myxoma Virus in Conjunction with Autologous Stem Cell Transplantation (ASCT) can Eliminate Minimal Residual Multiple Myeloma
Grant McFadden, Nancy Villa, Masmudur Rahman, Lino Torres, John Christie, Julia Disabella, Laura Hansen, Marta Chesi, Leif Bergsagel

16:45-17:00 O12-4 Elucidating Mechanisms of Antitumor Immunity Mediated by Live Oncolytic Vaccinia and Heat-Inactivated Vaccinia
Liang Deng, Weiyi Wang, Peihong Dai, Ning Yang, Rachel Giese, Taha Merghoub, Jedd Wolchok

17:00-17:15 O12-5 Impact of Tumor heterogeneity on poxviral Oncolytic Therapy
Eric Bartee, M. Y. Bartee

17:15-19:00 Free Time

19:00-21:00 Banquet (Grand Hyatt Taipei)
Poster Session 1
Session 1 - Virus Entry

P1-1 Super-Resolution Microscopy Imaging of Vaccinia Virus
   David Albrecht, Laura Pokorny, Robert Gray, Ricardo Henriques, Jason Mercer

P1-2 Heparin Binding Mechanism of Vaccinia Virus Envelop Protein H3
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