Program

The 58th Annual Meeting of the Arizona - Southern Nevada Branch American Society for Microbiology

Saturday, April 13, 2019

Hosted by

Northern Arizona University
Flagstaff, AZ
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See map below for South Campus, du Bois Center, and FREE Parking places for AZ NV ASM conference  (https://www2.nau.edu/nau-map/)
# Schematic Overview of Conference Events

## (Room)

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>(Aspen A) Rm 115A</th>
<th>(Juniper) Rm 130</th>
<th>(Pinion) Rm 132</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>9:00am-9:15am</td>
<td>Opening remarks</td>
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<tr>
<td>N/A</td>
<td>9:15am-10am</td>
<td>Keynote address</td>
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<tr>
<td></td>
<td>(8:00am - 9:00am) <strong>Registration &amp; Fee collection - outside Aspen ABC</strong></td>
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<tr>
<td></td>
<td>(10:00am - 10:30am) <strong>Coffee &amp; Refreshments - outside Aspen ABC</strong></td>
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## Three sessions - Concurrent talks in three separate rooms

### (Room) Scientific Topic

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>(Aspen A) Rm 115A</th>
<th>(Juniper) Rm 130</th>
<th>(Pinion) Rm 132</th>
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</thead>
<tbody>
<tr>
<td>I</td>
<td>10:30am-10:50am</td>
<td>Talk#1</td>
<td>Talk#6</td>
<td>Talk#11</td>
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<tr>
<td>I</td>
<td>10:50am-11:10am</td>
<td>Talk#2</td>
<td>Talk#7</td>
<td>Talk#12</td>
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<tr>
<td>I</td>
<td>11:10am-11:30am</td>
<td>Talk#3</td>
<td>Talk#8</td>
<td>Talk#13</td>
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<tr>
<td>I</td>
<td>11:30am-11:50am</td>
<td>Talk#4</td>
<td>Talk#9</td>
<td>Talk#14</td>
</tr>
<tr>
<td>I</td>
<td>11:50am-12:10pm</td>
<td>Talk#5</td>
<td>Talk#10</td>
<td>Talk#15</td>
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<tr>
<td>II</td>
<td>1:50pm-2:10pm</td>
<td>Talk#16</td>
<td>Talk#20</td>
<td>Talk#24</td>
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<tr>
<td>II</td>
<td>2:10pm-2:30pm</td>
<td>Talk#17</td>
<td>Talk#21</td>
<td>Talk#25</td>
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<td>2:30pm-2:50pm</td>
<td>Talk#18</td>
<td>Talk#22</td>
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<td>II</td>
<td>2:50pm-3:10pm</td>
<td>Talk#19</td>
<td>Talk#23</td>
<td>Talk#27</td>
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<tr>
<td>III</td>
<td>4:30pm-4:50pm</td>
<td>Talk#28</td>
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<td>Talk#32</td>
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<tr>
<td>III</td>
<td>4:50pm-5:10pm</td>
<td>Talk#29</td>
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<td>Talk#33</td>
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<tr>
<td>III</td>
<td>5:10pm-5:30pm</td>
<td>Talk#30</td>
<td></td>
<td>Talk#34</td>
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<tr>
<td>III</td>
<td>5:30pm-5:50pm</td>
<td>Talk#31</td>
<td></td>
<td>Talk#35</td>
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### (12:10pm - 1:50pm) **Lunch**

### (3:10pm - 4:30pm) **Poster Session - Aspen B & C**

### (6pm - 7:30pm) **Reception - Aspen ABC**
Detailed Schedule of Conference Events

8:00a-9:00a  **Registration & Fee collection** (Please pay cash or check) – du Bois
Hang up posters in Aspen Rm 115C /Load talks sessions I, II, III

9:00a – 9:15a  **Opening remarks** – du Bois  Aspen ABC Rm 115
Dawn Birdsell, Associate Director Pathogen and Microbiome Institute, Northern Arizona University

9:15a-10a  **Keynote address** – du Bois  Aspen ABC Rm 115
Imaging Salmonella lifestyles
**Dr. Linda Kenney, Professor**, Mechanobiology Institute, National University of Singapore
[https://mbi.nus.edu.sg/linda-j-kenney/](https://mbi.nus.edu.sg/linda-j-kenney/)

10:00am-10:30am  **Morning Coffee break with refreshments**

**Session I: Three concurrent Talks (Rooms Aspen A, Juniper, Pinion)**

10:30a- 12:10pm  **Environmental Microbiology (Oral Presentation)**
Aspen Rm 115A

**Talk#1**  The Mycobacterium smegmatis PrrAB two-component system positively regulates respiratory systems, energy balance, and adaptation to hypoxia: Transcriptomic insights into the essential nature of the Mycobacterium tuberculosis PrrAB two-component system
**Jason. D. Maarsingh**

**Talk#2**  The role of OprF in Pseudomonas aeruginosa biofilm formation
**Erin K. Cassin**

**Talk#3**  SCREENING OF SOUTH KOREAN PLANTS FOR ANTIBACTERIAL ACTIVITY
**Jisu Choi**

**Talk#4**  A diverse range of single-stranded DNA viruses recovered from honey bees (*Apis mellifera*) in Arizona
**Simona Kraberger**

**Talk#5**  BIDIRECTIONAL HYDROGENASE IN CYANOBACTERIA AND IMPROVEMENT OF HYDROGEN PRODUCTION
**Galyna Kufryk**
10:30a- 12:10pm  **Medical Microbiology (Oral Presentation)**  
Juniper Rm 130

**Talk#6**  Clostridium difficile associated disease: looking beyond the toxins  
**Farhan Anwar**

**Talk#7**  BILE SALT ANALOGS AS PROPHYLACTICS AGAINST CLOSTRIDIOIDES [CLOSTRIDIUM] DIFFICILE INFECTION (CDI)  
**Jacqueline R. Phan**

**Talk#8**  A HIGH-PROTEIN DIET PROMOTES CLOSTRIDIOIDES [CLOSTRIDIUM] DIFFICILE INFECTION IN MICE  
**Chrisabelle C. Mefferd**

**Talk#9**  Baccharis sarothroides POTENTIALLY ATTENUATE CHRONIC ANXIETY AND INFECTIONS  
**Ajeane Cotton**

**Talk#10**  Examining the Interaction Between Variants of Lactoferrin and the Microbial Community of an Individual with CRS  
**Sara Maltinsky**

10:30a- 12:10pm  **Immunology & Pathogenesis (Oral Presentation)**  
Pinion Rm 132

**Talk#11**  Enhancing the Versatility of the Recombinant Immune Complex Vaccine Platform  
**Mary D Pardhe**

**Talk#12**  EVALUATING GENETIC VARIATION AT AN ANTI-TICK VACCINE LOCUS TO IMPROVE ERADICATION OF CATTLE FEVER TICKS  
**Rebekah E. Turner**

**Talk#13**  Methods for Production of a Recombinant Immune Complex (RIC) Vaccine for Protective Immunity Against Schistosomiasis Produced in Nicotiana benthamiana  
**Michelle Di Palma**

**Talk#14**  BurkPx: a multiplex serodiagnostic bead assay to monitor Burkholderia pseudomallei exposures in non-human primates  
**Kimberly R. Celona**
Talk #15  Novel Vaccine Adjuvants: Exploring the Potential of Rexinoids to Influence Effector T Cell Homing to Mucosal Sites of Pathogen Transmission  
Kavita R. Manhas

12:10pm-1:50pm  Lunch

Luncheon Workshop 12:20pm-1:40pm  Early Career Development Topic: A Case for Peer Mentoring – Why is it important, what does the research say, and what are the best practices?  
(Pre-registration is required -> send a request to attend by email: Dawn.Birdsell@nau.edu)

Session II: Three concurrent Talks (Aspen A, Juniper, Pinion)

1:50pm – 3:10pm  Environmental Microbiology (Oral Presentation)  
Aspen Rm 115A

Talk #16  INVESTIGATING THE DNA REPAIR-INDEPENDENT ROLE OF THE TRANSCRIPTION-COUPLED REPAIR FACTOR (MFD) ON DISULFIDE STRESS IN BACILLUS SUBTILIS  
Holly Anne Martin

Talk #17  Single-stranded DNA viruses isolated from Cacti in Arizona  
Rafaela S. Fontenele

Talk #18  Environmental persistence of B. pseudomallei, the causative agent of melioidosis, in Puerto Rico  
Ella Santana-Propper

Talk #19  Multispecies Interactions And Hemolytic Subpopulations of Biofilm-forming Microbiota Recovered from Spaceflight Potable Water  
Jiseon Yang

1:50pm – 3:10pm  Medical Microbiology (Oral Presentation)  
Juniper Rm 130

Talk #20  Effect of Human Lactoferrin Gene Polymorphisms on the Airway Microbiome of CRS Patients  
Oliver Kask

Talk #21  Bacterial screen of under-investigated vaginally isolated bacteria on vaginal/endometrial cell cytotoxicity and proinflammatory cytokine induction  
Kimberley A. Owen
Talk#22  The sE Anti-sigma Factor MucA is Essential in Diverse Pseudomonas aeruginosa Isolates  
Daniela Rodriguez

Talk#23  A GENE COMMONLY MUTATED IN PSEUDOMONAS AERUGINOSA CLINICAL ISOLATES IS REQUIRED FOR BACTERIAL VIABILITY  
Melissa Schofield

1:50pm – 3:10pm  Immunology & Pathogenesis (Oral Presentation)  
Pinion Rm 132

Talk#24  Clinical Prevotella isolates exhibit species-specific inflammatory and cytotoxic effects on human three-dimensional endometrial epithelial cell model  
Zehra E. Ilhan

Talk#25  IDENTIFYING MECHANISMS OF HOST DEFENSE TO SNEATHIA AMNII INFECTION USING HUMAN THREE-DIMENSIONAL FEMALE REPRODUCTIVE TRACT EPITHELIUM MODELS  
Paweł Łaniewski

Talk#26  Characterizing unconventional T cells in the tumor microenvironment of metastatic osteosarcoma  
Nicole Appel

Talk#27  Understanding the potential for adaptive cellular immunity in melioidosis infections by characterizing DRB1*07:01 MHC II peptide binding  
Maxx Harvey

3:10pm-4:30pm  Poster Session  
Aspen Rm 115 B&C  
(refreshments served)

Session III: Two concurrent Talks (Juniper, Pinion)

4:30pm - 5:50pm  Medical Microbiology (Oral Presentation)  
Juniper Rm 130

Talk#28  Necroptosis Inhibition of Vaccinia Virus Pathogenesis in Mice  
Sambhavi Subramanian

Talk#29  Characterization of Necroptosis in Breast Cancer and Melanoma for Oncolytic Vaccinia Potential  
Aradhana Kumar
Talk#30  Role of necroptosis in Vaccinia virus pathogenesis  
   Mateusz Szczerba

Talk#31  Monkeypox inhibition of Necroptosis  
   Jacqueline Williams

4:30pm - 5:50pm  **Immunology & Pathogenesis (Oral Presentation)**  
   Pinion Rm 132

Talk#32  RIG-I like receptors lead to macrophage polarization and viral control in West Nile virus infection  
   Amy EL Stone

Talk#33  IL-36 is a crucial regulator of HSV-2-induced neutrophil recruitment and limits neuroinvasion in genital HSV-2 pathogenesis  
   Jameson Gardner

Talk#34  Role of soluble corn fiber on allergic airway inflammation: the gut microbiome-airway axis  
   Sierra A. Jaramillo

Talk#35  Mitigating allergic inflammatory airway responses via dietary manipulation of the cecal microbiome: the gut microbiome-airway axis  
   Gabrielle M. Orsini

6:00pm-7:30pm  **Closing remarks & reception** – Aspen ABC Rm 115

**Acknowledgement for Conference Organization:**  
Paul Phillips, Dr. David John, All the Moderators, and Judges

**Suggested restaurants for lunch – walking distance from NAU**

du Bois South Union: DuB dining or Subways

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<thead>
<tr>
<th>Restaurant</th>
<th>Address</th>
<th>Phone</th>
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<th>Phone</th>
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<tbody>
<tr>
<td>Olive Garden</td>
<td>409 S. San Francisco St</td>
<td>928-779-7033</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coco’s Bakery Restaurant</td>
<td>307 W. Dupont Ave</td>
<td>928-523-1899</td>
<td>928-779-0079</td>
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<tr>
<td>Beaver Street Brewery</td>
<td>11 S. Beaver St. #1</td>
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<tr>
<td>Nimarcos Pizza</td>
<td>1800 S. Milton Rd</td>
<td>928 779-0024</td>
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<tr>
<td>Pizza Hut</td>
<td>1860 S. Milton Rd.</td>
<td>928-774-3259</td>
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<tr>
<td>Five Guys</td>
<td>1800 S. Milton Rd.</td>
<td>928-779-7071</td>
<td>928-774-1083</td>
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<tr>
<td>El Capitan Fresh Mexican Grill</td>
<td>1800 Milton Rd.</td>
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