Organizers
Makedonka Mitreva, Washington University School of Medicine
Phil Newmark, HHMI; Morgridge Institute for Research; University of Wisconsin-Madison
Mostafa Zamanian, University of Wisconsin-Madison

Table of Contents
Full Program ........................................................... 2
Posters ..................................................................... 6
Meeting sponsors ................................................ 8
Venue map ............................................................. 9
Monday, June 26

3:30 - 6:00 pm Meeting Registration
Open Court Central

6:00 - 6:15 pm Opening Remarks & Student / Postdoc Awards
H.F. DeLuca Forum

6:15 - 7:00 pm Session 1: Keynote Lecture
Tim Anderson (Texas Biomedical Research Insitute)
Schistosome hybridization! Many questions and some answers.

7:00 pm Welcome Reception
Open Court Main

Tuesday, June 27

8:00 - 9:00 am Breakfast and Poster Setup
Open Court Central/East

9:00 - 10:20 am Session 2: Immunoparasitology and Diagnostics
9:00 am: Naina Arora, Cannabinoid receptor signaling through CBR1 regulates macrophage and eosinophil responses in lung helminth infection
9:20 am: Christopher Wray, Fasciola hepatica microRNAs in infected sheep sera: a route to improved diagnostic tests?
9:40 am: Natalie Steinel, The diphyllobothriidean cestode, Schistocephalus solidus, modulates host innate and adaptive immunity
10:00 am: Carolina Verissimo, Heterogeneous glycosylation of proteins from Fasciola hepatica invasive stage reveals higher complexity in parasite-host interactions

10:20 - 10:50 am Morning Coffee Break
Open Court Main

10:50 am - 12:30 pm Session 3: Basic and Developmental Biology
10:50 am: Tania Rozario, Exploring stem cell and germ cell niches in the tapeworm, Hymenolepis diminuta
11:10 am: Oliver Puckelwaldt, Uncovering the cellular diversity of Fasciola hepatica utilizing single-cell transcriptomics
11:30 am: Remy Bétoüs, Filarial DAF-12 sense Δ4-dafachronic acid in host serum to resume iL3 development during infection
11:50 am: Aiste Vitkauskaite, Co-culture with HepG2 spheroids spurs in vitro growth and development of the infective stages of the helminth pathogen Fasciola hepatica
12:10 pm: Bruce Rosa, The first genome of African Paragonimus
Tuesday, June 27 continued

12:30 - 2:00 pm  Lunch Workshop
Open Court Central/East

2:00 - 4:00 pm  Poster Session 1 (Odd Presenters)
Open Court Main

4:00 - 5:20 pm  Session 4: Therapeutics and Drug Resistance
H.F. DeLuca Forum
4:00 pm: James Collins, Thiabendazole responses are modified by natural mutations in a cytochrome P450 gene
4:20 pm: Jonathan Marchant, TRPMPZQ as a target for new anthelmintics
4:40 pm: Nathan Ryan, Adjuvanted fusion protein vaccine induces a durable immune response to Onchocerca volvulus in mice and non-human primates
5:00 pm: Jacqueline Hellinga, An evolutionary study of intrinsic environmental driving factors for ivermectin resistance in the parasitic model Caenorhabditis elegans

5:20 - 5:50 pm  Afternoon Coffee Break
Open Court Main

5:50 - 7:30 pm  Session 5: Host-Parasite Interactions
H.F. DeLuca Forum
5:50 pm: Michael Povelones, Do heartworms subvert the immune response of their mosquito hosts?
6:10 pm: Tom Pennance, Comparative whole-genome analysis of African snail vector, Biomphalaria sudanica, reveals genomic regions associated with resistance to infection by schistosomes
6:30 pm: Manuela Verastegui, Study of the pathogenesis of neurocysticercosis using an animal model
6:50 pm: Gustavo Salinas, A minimal kynurenine pathway was preserved for rhodoquinone but not for de novo NAD+ biosynthesis in parasitic worms: the essential role of NAD+ rescue pathways
7:10 pm: Navonil Banerjee, Role of carbon dioxide in mediating parasite-host interactions in the skin-penetrating nematode Strongyloides stercoralis

7:30 pm  Dinner - Brats & Beer at the Memorial Union Terrace
Memorial Union Terrace

Wednesday, June 28

8:00 - 9:00 am  Breakfast
Open Court Central/East

9:00 - 10:20 am  Session 6: Basic and Developmental Biology
H.F. DeLuca Forum
9:00 am: Paul McCusker, Probing growth and development in Fasciola hepatica
Wednesday, June 28 continued

9:20 am: Kevin Hackbarth, Dosage compensation and meioitic silencing on the neo-X chromosomes of filarial nematodes
9:40 am: Jose Tort, Intra-snail stages transcriptomics reveals stage specific gene amplifications in Fasciola hepatica
10:00 am: Lu Zhao, Explore regenerative responses in parasitic flatworm Schistosoma mansoni following injury

10:20 - 10:50 am Morning Coffee Break
Open Court Main

10:50 am - 12:10 pm Session 7: Immunoparasitology and Diagnostics
H.F. DeLuca Forum
10:50 am: Adler Dillman, Insect-parasitic nematodes as a model system for functional characterization of nematode ESPs
11:10 am: Amit Prasad, Taenia solium exosomes interfere with PI3K-AKT-mTOR pathway and induces apoptosis in macrophages
11:30 am: Tilak Chandra Nath, Molecular proof of hookworms and Strongyloides species in humans and dogs in Bangladesh
11:50 am: Lucia Sanchez Di Maggio, Paragonimus kellicotti extracellular vesicles released in vitro or present in lung cysts contain a cysteine protease that is recognized by IgG4 antibodies of infected humans

12:10 - 2:00 pm Lunch
Open Court Central/East

2:00 - 4:00 pm Poster Session 2 (Even Presenters)

4:00 - 5:20 pm Session 8: Host-Parasite Interactions
H.F. DeLuca Forum
4:00 pm: Jesse Weber, Cestode tegument width is a plastic trait connected to genetic differences in host
4:20 pm: Patrick Skelly, How schistosomes control their purinergic halo
4:40 pm: Hyeim Jung, Identification and characterization of mucus degrading enzymes during early whipworm infection using in vitro colonoid model
5:00 pm: Eve O’Kelly, Fasciola hepatica Enolase, a moonlighting glycolytic enzyme on the parasite tegument that interacts with the host fibrinolytic system

5:20 - 5:50 pm Afternoon Coffee Break
Open Court Main
Wednesday, June 28 continued

5:50 - 7:30 pm  Session 9: Therapeutics and Drug Resistance
H.F. DeLuca Forum

5:50 pm: Sabine Specht, New anthelmintic chemical entities: considerations for development and access
6:10 pm: Sasisekhar Bennuru, Wb 5, a novel biomarker for monitoring efficacy and success of mass drug administration programs for Wuchereria bancrofti elimination
6:30 pm: Sara Lustigman, Prophylactic drugs that target early stages of filarial worms can support the elimination goals for onchocerciasis
6:50 pm: Murilo Amaral, Long non-coding RNAs involved with reduced sensitivity to praziquantel in Schistosoma mansoni

7:10 pm  Banquet Dinner & Entertainment
Open Court - All

Thursday, June 29

8:00 - 9:00 am  Breakfast
Open Court Central/East

9:00 - 10:40 am  Session 10: Emerging Technologies and Approaches
H.F. DeLuca Forum

9:00 am: Cinzia Cantacessi, Antimicrobial peptides in helminth secretions – a gold mine for antibiotic discovery?
9:20 am: Kathrin Jutzeler, Investigating genomic diversity in laboratory schistosome populations
9:40 am: Leah Owens, CRISPR-Cas9 host signal reduction and 18S metabarcoding for parasite assemblage characterization
10:00 am: Oluwaremilekun Ajakaye, Proof-of-concept multilocus sequence typing scheme to investigate hybridization in Schistosoma haematobium
10:20 am: Svenja Gramberg, Spatial transcriptomics of parasites A molecular map of the liver fluke Fasciola hepatica

10:40 - 10:50 am  Closing Remarks
Open Court Main
<table>
<thead>
<tr>
<th>#</th>
<th>Presenter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rebecca Armstrong, Queens University Belfast</td>
<td>Dysregulating the balance between cell survival and programmed cell death – a novel strategy for fasciolosis control?</td>
</tr>
<tr>
<td>2</td>
<td>Ashutosh Arun, Washington University in Saint Louis</td>
<td>Innovative strategy for the identification of new therapeutics for onchocerciasis</td>
</tr>
<tr>
<td>3</td>
<td>Suman Bharti, Washington University</td>
<td>Different approaches to create transgenic hookworms</td>
</tr>
<tr>
<td>4</td>
<td>Marc Borchert, Freie Universität Berlin</td>
<td>Benzimidazole inhibiting Haemonchus contortus tubulin dynamics by structural intradimer changes observed by in silico modeling</td>
</tr>
<tr>
<td>5</td>
<td>Andrés Tibabuzo Permodo, Morgridge Institute for Research</td>
<td>Uncovering the mechanism of action of Schistosome Paralysis Factor</td>
</tr>
<tr>
<td>6</td>
<td>Evgeny Chulkov, Medical College of Wisconsin</td>
<td>Identification of an endogenous current evoked by praziquantel in schistosome neurons</td>
</tr>
<tr>
<td>7</td>
<td>Bethany Crooks, Queens University Belfast</td>
<td>Exploring the nature of RNA secretion by Strongyloides ratti</td>
</tr>
<tr>
<td>8</td>
<td>Carolina De Marco Verissimo, University of Galway</td>
<td>Complement regulation in Fascioliasis: Insights from Serpin Inhibition of MBL-associated serine proteases (MASPs)</td>
</tr>
<tr>
<td>9</td>
<td>Elisha Enabulele, Texas Biomedical Research Institute</td>
<td>An array of PCR-RFLP markers for differentiating between Schistosoma haematobium and S. bovis in field settings</td>
</tr>
<tr>
<td>10</td>
<td>Santiago Fontenla, Universidad de la República</td>
<td>Conservation of the small RNA pathways in chromosome level genomes of platyhelminthes</td>
</tr>
<tr>
<td>11</td>
<td>Kendra Gallo, University of Wisconsin-Madison</td>
<td>Molecular surveillance detects high prevalence of the neglected parasite Mansonella ozzardi in the Colombian Amazon</td>
</tr>
<tr>
<td>12</td>
<td>Siobhan Gaughan, University of Galway</td>
<td>Advancing parasitology research and sustainability: a case study of the molecular parasitology Lab in Galway, Ireland</td>
</tr>
<tr>
<td>13</td>
<td>Sandra Gava, Fiocruz Minas</td>
<td>Transcriptional profiles and functional insights into the Aspartyl Proteases Cathepsin D-like of Schistosoma mansoni</td>
</tr>
<tr>
<td>14</td>
<td>Cierra Gladfelter, University of Georgia</td>
<td>The role of nanos in germ cell regulation and regeneration in Hymenolepis diminuta</td>
</tr>
<tr>
<td>15</td>
<td>Trevor Haskins, University of Georgia</td>
<td>Wnt signaling and A-P axis patterning in the tapeworm, Hymenolepis diminuta</td>
</tr>
<tr>
<td>16</td>
<td>Megan Henriquez, University of Calgary</td>
<td>Morphological and molecular identification of gastrointestinal parasites reveals species diversity in wild capuchin monkeys (Cebus imitator)</td>
</tr>
<tr>
<td>17</td>
<td>Christopher Holt, University of Maryland, Baltimore</td>
<td>Lack of host sex and infection mode effect on Brugia pahangi gene expression</td>
</tr>
<tr>
<td>18</td>
<td>Judith Humphries, Lawrence University</td>
<td>Development of the nervous system in embryonic Biomphalaria glabrata, an intermediate host of Schistosoma mansoni</td>
</tr>
<tr>
<td>#</td>
<td>Presenter</td>
<td>Title</td>
</tr>
<tr>
<td>----</td>
<td>--------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>19</td>
<td>Alba Cortés, Universitat de València</td>
<td>Study of the metabolic capacity of the host gut microbiome reveals a likely dual role for intestinal bacteria in the pathophysiology of hepato-intestinal schistosomiasis</td>
</tr>
<tr>
<td>20</td>
<td>Hailey Johnson, NIH</td>
<td>Identification of <em>Brugia malayi</em> miRNAs involved in <em>Wolbachia</em>-Host symbiosis</td>
</tr>
<tr>
<td>21</td>
<td>Pawan Kumar, Washington University in Saint Louis</td>
<td>Analysis of intrapopulation genetic diversity and sibship reconstruction in <em>Onchocerca volvulus</em> using single microfilariae whole-genome sequencing</td>
</tr>
<tr>
<td>22</td>
<td>Winka Le Clec’h, Texas Biomedical Research Institute</td>
<td>Impact of schistosome infection on tissue microbiomes of <em>Biomphalaria</em> snails</td>
</tr>
<tr>
<td>23</td>
<td>Ian Donovan, Morgridge Institute for Research</td>
<td>Developing a molecular toolkit to study synthesis of Schistosome Paralysis Factor by the rotifer <em>Rotaria sp.</em></td>
</tr>
<tr>
<td>24</td>
<td>Ciaran McCoy, Queens University Belfast</td>
<td>An optimised <em>Ascaris suum</em> biofluid peptidomics pipeline to aid understanding of extrasynaptic transmission in nematodes</td>
</tr>
<tr>
<td>25</td>
<td>George Wendt, University of Texas Southwestern Medical Center</td>
<td>The role of p53 homologs in the parasitic flatworm <em>Schistosoma mansoni</em></td>
</tr>
<tr>
<td>26</td>
<td>Elena Rehborg, University of Wisconsin-Madison</td>
<td>Mapping resistance-associated anthelmintic interactions in the model nematode <em>Caenorhabditis elegans</em></td>
</tr>
<tr>
<td>27</td>
<td>Diana Gabriela Rios Valencia, Universidad Nacional Autónoma de México</td>
<td>The study of germinal cells in <em>Taenia crassiceps</em></td>
</tr>
<tr>
<td>28</td>
<td>Claudia Rohr, Medical College of Wisconsin</td>
<td>Drug development for pseudophyllidean cestodes</td>
</tr>
<tr>
<td>29</td>
<td>Kaetlyn Ryan, University of Wisconsin-Madison</td>
<td>Exploring microbial natural products as sources of novel anthelmintics using advanced phenotypic screens</td>
</tr>
<tr>
<td>30</td>
<td>Amanda Shaver, Northwestern University</td>
<td>Genetic differences underlie variation in anthelmintic responses in <em>C. elegans</em> wild strains</td>
</tr>
<tr>
<td>31</td>
<td>Leonidas Spathis, University of Glasgow</td>
<td>Transcriptomic analysis identifies potential novel targets for filarial control</td>
</tr>
<tr>
<td>32</td>
<td>Daniel Sprague, Medical College of Wisconsin</td>
<td>Development of a novel TRPMPZQ activator to target liver fluke</td>
</tr>
<tr>
<td>33</td>
<td>Dylon Stephens, UT Southwestern</td>
<td>Leveraging the human druggable genome to uncover therapeutic targets in the parasite <em>Schistosoma mansoni</em></td>
</tr>
<tr>
<td>34</td>
<td>Duncan Wells, Queens University Belfast</td>
<td>Parasite-derived Extracellular RNAs as Novel Biomarkers for <em>Strongyloides</em> Diagnosis</td>
</tr>
<tr>
<td>35</td>
<td>Devyn Yates, Washington University School of Medicine</td>
<td>Identification of filarial parasite biomarker candidates in extracellular vesicles isolated from culture media and plasma</td>
</tr>
</tbody>
</table>
ACKNOWLEDGMENTS

We would like to acknowledge individuals for their help with meeting logistics and the meeting program: Chip Martin (WUSTL), Melanie Issigonis (Morgridge Institute for Research), and Katie Ryan (UW-Madison).