

Monday, June 5

Session 1: A Survey of Animal Immune Systems

Chair: Kate Buckley

8:45 Welcome and Opening Remarks

9:00 **Opening Keynote Speaker** Max Cooper, Emory University School of Medicine
Alternative Adaptive Immune System in Jawless Vertebrates

10:00 Coffee Break

10:30 **NACI 2023 New Investigator** Benjamin Rosental, Ben Gurion University
Candidate Stem Cell Isolation and Transplantation in Hexacorallians; Toward Cell-Therapy for Corals

11:15 Leon Grayfer, George Washington University
Amphibian mast cells grant protection during deadly chytrid fungus infections

11:35 Sebastian Fugmann, Chang Gung University
Evolutionary Conservation of Immune Signaling Pathways in Echinoderms

11:55 Joanna Shisler, The National Science Foundation
Introduction and funding opportunities in comparative immunology

12:10 – 13:30 Lunch, Oak Room

Session 2: Diverse Immune Mechanisms of Jawed Vertebrates

Chair: Jeffrey Yoder

13:30 Martin Flajnik, University of Maryland
An MHC-linked Gene Encodes a Non-rearranging Shark Antibody Convergent with IgG

13:50 Jeannine Ott, Texas A&M University
Evolution of Immunogenetic Components Encoding Ultralong CDR H3

14:10 Jérôme Le Nours, Monash University
Molecular Insights into the Monodelphis Domestica Opossum UT5

14:30 Brad Magor, University of Alberta
Zebrafish have Functional Analogues of Mammalian Germinal Centers in their Secondary Lymphoid Tissues

14:50 – 15:20 Coffee Break

15:20 Jeffrey Yoder, North Carolina State
A Survey of Ray-Finned Fish PSMB8 sequences Reveal Novel Holostean Alleles that may Impact MHC Function

15:40 Lee Campbell, University of Alberta
Evolutionary Origins and Expression of Antiviral TRIM Proteins in the Duck

16:00 – 19:00 Poster Session, Terrace Room

Tuesday, June 6

Session 3: Cellular Immunity

Chair: Elizabeth Schwartz

9:00 Faith Boyer, Auburn University
Immunological Characterization of the American Cockroach: A Flow Cytometric Approach

9:20 Lisa Brown, Georgia Southern University
Local and Systemic Immune Responses in the Cat Flea (Ctenocephalides Felis)

9:40 Shany Klara Barkan, Ben Gurion University
Heat Stress Increases Immune Cell Function in Hexacorallia

10:00 – 10:40, Coffee Break

Session 4: Pattern Recognition Receptors

Chair: Patrick Hanington

10:40 Mirzabek Kazbekov, University of Alberta
Duck Riplet Activates RIG-I Signaling in Chicken Cells

11:00 Kristianna Felch, University of Mississippi Medical Center
Assessment of TLR5 cellular localization in channel catfish, Ictalurus punctatus

11:20 Christina Bowhay, University of Alberta
The Importance of TLR Expression in Snail Haemocytes and Tissues

11:40 Amelia Williams, Auburn University

12:00 – 13:30 Lunch, Oak Room

Session 5: Broadening Participation in Comparative Immunology

13:30 Kimberly Mulligan, Assistant Dean for Inclusion, Equity, and Diversity, College of Sciences and Mathematics, Auburn University
Enhancing Diversity through Intentional Mentoring

14:50 Coffee Break

Session 6: An Evolutionary Perspective on Animal Immunity

Chair: Sebastian Fugmann

15:40 Ayelet Voskoboynik, Stanford University
Two distinct evolutionary conserved neural degeneration pathways characterized in a colonial chordate

15:20 Gregory Maniero , Stonehill College
*CD4 as an Ancestral Receptor for the Cytokine IL-16; Evidence from the Frog, *Xenopus laevis*.*

16:00 Jonathan Rast, Emory University
Developmental and genomic approaches to characterizing the variable lymphocyte receptor system of sea lamprey

16:20 Francisco Fontenla-Iglesias, Emory University
Identification and characterization of novel variable lymphocyte receptors in lampreys

Wednesday, June 6

Session 7: Microbiomes, etc.

Chair: TBD

9:00 Tom Levy, Stanford University
The Colonial Tunicate Botryllus schlosseri - A Marine Model for Germline Stem Cell Competition

9:20 Megan Maloney, Auburn University
Mucus provides a first line a defense for the Florida false coral (Ricordea florida) as a unique microbial niche

9:40 Amir Mani, University of New Mexico
A brain microbiome in salmonids

10:00 Coffee Break

Session 8: Immune Responses in Fish

Chair: Brian Dixon

10:40 Karina Hissen, Texas A&M University
Glycine Supplementation Effects on Immune Gene Expression in Hybrid Striped Bass

11:00 Nithin Muliya Sankappa, USDA-ARS, Aquatic Animal Health Research Unit
Fish Immune Responses to Natural Infection with Carp Edema Virus (Koi Sleepy Disease): An Emerging Fish Disease

11:20 Emily Churchman, Auburn University
The Expression of Recombinant Monoclonal Antibodies from Existing Hybridoma Cell Lines

11:40 Reema Joshi, University of Alberta
Anti-Pyresis During Infection Induces Molecular Changes in Goldfish Thrombocytes

12:00 – 13:30 Lunch, Oak Room

Session 9: Immune Responses in Xenopus

Chair: Leon Grayfer

13:30 Dionysia Dimitrakopoulou, University of Rochester
*Role of Glycopeptidolipid (GPL) and Phenazine (PHZ) Production in Immunopathogenicity of *Mycobacterium abscessus* (Mab) in the *Xenopus laevis* tadpole model*

13:50 Jacques Robert, University of Rochester Medical Center
*Microplastic Water Contaminants Impact on Amphibian *Xenopus* Development and Immunity*

14:10 Louise Rollins-Smith, Vanderbilt University School of Medicine
Inhibition of Amphibian Lymphocytes by Cell Wall Components of Chytrid Fungi

14:30 Coffee Break

15:00 Business meeting, etc.

Poster Presentations

Mediha Aksoy, USDA-ARS

Flavonoids as Functional Food Additives and their Effect on Immunity of Nile Tilapia, Oreochromis niloticus

Olivia Brahms, Auburn University

Characterization of Murine Cytomegalovirus M72 Interaction with the Ccr4-Not Complex

Dean Bunnell, University of Alabama

RNA virus-mediated changes in bioenergetics in organismal oxygen consumption rate in young and old Drosophila melanogaster

Xiaoqing Dang, University of Waterloo

High-throughput OpenArray™: novel, swift TaqMan® Real-Time PCR scanner for non-invasive diagnostic biomarkers in Oncorhynchus tshawytscha

Brian Dixon, University of Waterloo

PACAP as an antimicrobial agent and its immunostimulatory effects in Oncorhynchus mykiss and Salmo salar cell culture

Chad Hamm, Auburn University

A Flow Cytometric Approach to Analyzing Phagocytosis in the American Cockroach

Nick Kraieski, Auburn University

Dissecting the role of copper metalloallostery during sea urchin embryogenesis

Jesse Garrett-Larsen, Virginia Tech

Effects Of Cold Temperatures on Avian Immune Response to A Bacterial Pathogen

Yeo Rang Lee, University of Alabama

TBD

Sameekshya Mainali, University of Alabama

Brain Innate Immune Activation Following Bacterial Infection in Drosophila Melanogaster

Aaron Martin, Auburn University

Kinetic Analysis of the Melanization Reaction in the American Cockroach via Spectrophotometry

Emily McKenzie, University of Waterloo

Expression of Cytokine and Antimicrobial Peptide Transcripts in Salmonid Macrophage/Monocyte and Fibroblast Cell Lines After Stimulation with Vibrio anguillarum

Tania Rodríguez-Ramos, University of Waterloo

Improving Pufferfish-Induced Cobia Mortality Through Vaccination

Michael Rodwell, University of Alabama

Temporal effects of endosymbiont Wolbachia on the outcome of RNA viral infection in Drosophila melanogaster

Tyler Smith, Auburn University

Delineating the gene regulatory network that controls the expression of IRF4 during immune cell differentiation in the Strongylocentrotus purpuratus

Yu Sun, Auburn University

A survey of Nod-like receptors (NLRs) reveals extraordinary diversity among echinoderm genome sequences

Jake Tatum, Auburn University

Bacterial motility is required for the pathogenesis in interactions between sea urchin larvae and Vibrio diazotrophicus

Emily Wilkins, Auburn University

TBD

Shawn Yates, Auburn University

The Role of Canonical, Full-Length Immediate Early 3 Protein in Murine Cytomegalovirus-Induced Necroptosis

Jeff Yoder, North Carolina State University

Ancient Fish Lineages Illuminate Toll-Like Receptor Diversification in Early Vertebrate Evolution