Join Keystone Symposia for the 2015 conference on:

The Arthropod Vector: The Controller of Transmission

May 12–17, 2015
Sagebrush Inn and Conference Center
Taos, New Mexico, USA

Scientific Organizers: Serap Aksoy, Stephen K. Wikel and David S. Schneider
Organizing Committee: Adriana Costero-Saint Denis, Tonu M. Wali and Wolfgang Leitner

Vector innate immunity studies have been ongoing for about a decade, and the field has advanced understanding of the complex interactions between pathogens and vectors. Vector saliva contains powerful molecules with translational potential, and vectors also ingest various bioactive factors of human origin which affect the development and survival of pathogens within the vector. This meeting integrates the multiple levels of influence on disease transmission by the arthropod vector. Its goal is to translate immunological and microbiological insights into new approaches for combating vector-borne diseases, including manipulation of the microbiome and identification of novel, non-traditional vaccine targets, such as arthropod saliva proteins.

Session Topics:
• Innate Immunity: Models and Midguts
• Innate Immunity: From Cells to Host Factors
• Microbiota of Vectors: The New Frontier?
• Microbiome Impact on Innate Immunity
• The Use of Symbionts to Prevent Transmission
• Vector Spit: from Alchemy to Public Health Solutions
• Saliva Proteins to Prevent and Track Transmission
• Novel Approaches to Disease Control

To see the full program and for additional details, visit www.keystonesymposia.org/15E2.
TUESDAY, MAY 12
Arrival and Registration

WEDNESDAY, MAY 13
Keynote Address
Shirley Luckhart, University of California Davis, USA
Six Degrees of Separation: Shared Biology to Empower Novel Translational Approaches to Vector-Borne Disease Control

Innate Immunity: Models and Midguts
David S. Schneider, Stanford University School of Medicine, USA
What Drosophila Can Teach Us about Infectious Diseases Systems
Bruno Lemaître, École Polytechnique Fédérale de Lausanne, Switzerland
How the Insect Gut Repairs Itself after Pathogen Infection
Carolina V. Barillas-Mury, NIAID, National Institutes of Health, USA
Anopheles/Plasmodium Interactions: The Tale of the Invisible Parasite!
Short Talk(s) Chosen from Abstracts

Workshop 1
Short Talks Chosen from Abstracts

Innate Immunity: From Cells to Host Factors
Michael R. Strand, University of Georgia, USA
Cellular Immunity of Arthropods and its Role in the Defense Against Vector-Borne Pathogens
Kristin Michel, Kansas State University, USA
Immunomodulation Therapy to Control Mosquito Vectors
Michael A. Riehle, University of Arizona, USA
The Effects of Ingested Mammalian Blood Factors on Vector Arthropod Immunity and Physiology
Short Talk Chosen from Abstracts

Poster Session 1

THURSDAY, MAY 14

Microbiota of Vectors: The New Frontier?
Angela E. Douglas, Cornell University, USA
How the Taxonomic and Functional Diversity of Gut Microbiota Shapes Insect Traits
Serap Aksoy, Yale University School of Medicine, USA
Insights into the Microbiome of a Viviparous Dipteran
George Dimopoulos, Johns Hopkins University, USA
Exploring the mosquito microbiome for disease control
Sassan Asgari, University of Queensland, Australia
Role of MicroRNAs in Regulation of Symbiont-Pathogen Interactions in a Vector System
Short Talk(s) Chosen from Abstracts

Microbiome Impact on Innate Immunity
Nicole M. Gerardo, Emory University, USA
The Intersection of Symbionts, Pathogens and Immunity in Insect Systems
Zhiyong Xi, Michigan State University, USA
Wolbachia and ROS Interaction in Mosquito and Its Impact on Vector Competence for Malaria and Dengue Virus
Rod Dillon, Lancaster University, UK
The Gut Microbiome of Lutzomyia Sand Flies
Short Talk Chosen from Abstracts

Poster Session 2

FRIDAY, MAY 15

The Use of Symbionts to Prevent Transmission
Marcelo Jacobs-Lorena, Johns Hopkins Bloomberg School of Public Health, USA
Fighting Malaria with Engineered Symbiotic Bacteria from Vector Mosquitoes
Ulrike Munderloh, University of Minnesota, USA
Paratransgenic Approaches to Manipulate Tick Infectivity
Pamela Pennington, Universidad del Valle de Guatemala, Guatemala
Applying Paratransgenic Approaches to Control Disease
Jason Rasgon, Pennsylvania State University, USA
Microbiome as a Driving Mechanism for Gene Spread
Short Talk(s) Chosen from Abstracts

Vector Spit: From Alchemy to Public Health Solutions
Stephen K. Wikel, Quinnipiac University, USA
Vector Saliva: A Powerful Immuno-Modulator
José M. C. Ribeiro, NIAID, National Institutes of Health, USA
Vector Salivary Proteins: Diversity and Evolution
João H. F. Pedra, University of Maryland School of Medicine, USA
A Tick Salivary Protein Alters Inflammasome Signaling during Pathogen Infection
Short Talk Chosen from Abstracts

Poster Session 3

SATURDAY, MAY 16

Saliva Proteins to Prevent and Track Transmission
Esther von Stebut-Borschitz, Johannes Gutenberg-University Mainz, Germany
How Vector Saliva affects Immune Cells in the Human Skin
Jan Van den Abbeele, Institute of Tropical Medicine Antwerp, Belgium
Using Tsetse Fly Saliva Proteins as Biomarkers of Vector Exposure
Franck Remoue, UMR 224 MIVEGEC, France
Epidemiological Applications of Assessing Mosquito Exposure in a Malaria Endemic Area
Jesus Valenzuela, National Institutes of Health, USA
Impact of Immunity to Sand Fly Salivary Proteins in Leishmaniasis
Short Talk(s) Chosen from Abstracts

* Session Chair † Invited but not yet accepted
Program current as of September 8, 2014. Program subject to change. Meal formats are based on meeting venue.
Workshop 2

Short Talks Chosen from Abstracts

Novel Approaches to Disease Control

Erol Fikrig, Yale University, USA

*Keynote Address: The Translation of Saliva Proteins into Tools to Prevent Vector-Borne Disease Transmission*

Scott L. O’Neill, Monash University, Australia

*Keynote Address: Using Wolbachia Infections of Mosquitoes to Control Dengue*

Short Talk Chosen from Abstracts

**SUNDAY, MAY 17**

Departure