

Announcing Keystone Symposia's
first conference on:

Immunity to Veterinary Pathogens: Informing Vaccine Development

January 20–25, 2015

Keystone Resort, Colorado, USA

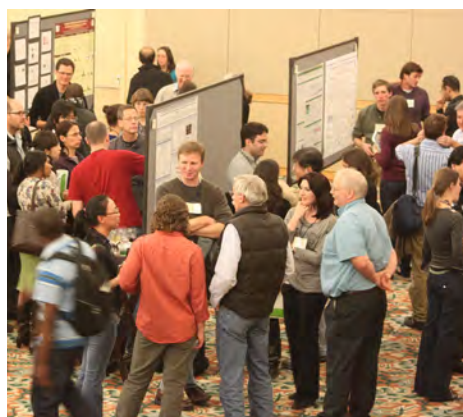
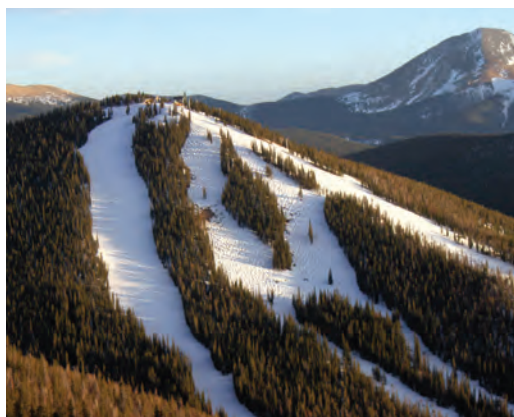
Scientific Organizers: William T. Golde, Wendy C. Brown and Ivan Morrison

With expanding pressure on food sources, the need for more effective vaccines to protect food animals against infectious diseases has never been greater. This four-day conference seeks to highlight the value of studying immune responses to infectious disease in animals not only to develop control measures for animal diseases, but also to advance knowledge that may be more widely applicable for vaccine development in humans.

Session Topics:

- The Role of γ/δ T Cells in Innate and Acquired Immunity
- Workshop 1: High-Throughput Antigen Identification for Vaccine Formulations
- Innate Responses to Infection
- Mucosal Immune Responses to Infection
- Immune Responses to Swine and Avian Influenza
- Analysis of Immune Responses to Vector-Borne Pathogens
- Workshop 2: Assessment of Adaptive Immune Responses in Analyzing Vaccine Performance
- Immunodeficiency Virus Infections in Veterinary Species
- Immune Responses to Mycobacterium Infection
- Veterinary Vaccines for the 21st Century

This program was reviewed and approved by the AAVSB RACE program for 13 hours of continuing education. Participants should be aware that some boards have limitations on the number of hours accepted in certain categories and/or restrictions on certain methods of delivery of continuing education. Please contact the AAVSB RACE program if you have any comments/concerns regarding this program's validity or relevancy to the veterinary profession.



Discounted Abstract/Scholarship Deadline: Sep 29, 2014
Abstract Deadline: Oct 21, 2014
Discounted Registration Deadline: Nov 19, 2014

To see the full program and for additional details,
visit www.keystonesymposia.org/15A3.

KEYSTONE SYMPOSIA™
on Molecular and Cellular Biology
Accelerating Life Science Discovery

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TUESDAY, JANUARY 20

Arrival and Registration

WEDNESDAY, JANUARY 21

Keynote Address

Linda J. Saif, Ohio State University, USA

Gut Reactions to Rotavirus Vaccines: Novel Strategies to Improve Efficacy in Piglets and Infants

The Role of gamma/delta T Cells in Innate and Acquired Immunity

***Wendy C. Brown**, Washington State University, USA

***Douglas F. Antczak**, Cornell University, USA

Mark Jutila, Montana State University, USA

Enhancing the Innate Lymphocyte Response with Plant and Microbial Products

Randy E. Sacco, National Animal Disease Center, US Department of Agriculture, USA

Influence of gammadelta T Cells on the Immunopathology of Bovine Respiratory Syncytial Virus

Janice C. Telfer, University of Massachusetts, USA

WC1 Is a Hybrid gammadelta TCR Coreceptor and Pattern Recognition Receptor for Pathogenic Bacteria

Efrain Guzman, Pirbright Institute, UK

Short Talk: Bovine gamma delta T Cells Are a Major Regulatory T Cell Subset

Workshop 1: Immune Function and Regulation

***Dirk Werling**, Royal Veterinary College, UK

***Paul M. Coussens**, Michigan State University, USA

Ellis J. Powell, USDA ARS, USA

Increased Percentages of Functional NK Cells in Pigs with Severe Combined Immune Deficiency (SCID) Caused by Natural Mutations in the Artemis Gene

Bianca Libanori Artiaga, University of Florida, USA

Targeting NKT Cells to Enhance Immunity: A Novel Swine Model

Tomohiro Okagawa, Hokkaido University, Japan

A Novel Strategy for Immunotherapy of Paratuberculosis in Cattle: Regulation of T-Cell Response to Mycobacterium avium subspecies paratuberculosis by the Blockade of Immunoinhibitory Receptors

Satoru Konnai, Hokkaido University, Japan

Increases of Cells Expressing PD-1 and PD-L1 in Bovine Leukemia Virus Infection and Enhancement of Anti-Viral Immune Responses in vitro via its Blockade

Michael C. Rahe, University of Minnesota, USA

Cytokine-Mediated Proliferation and Differentiation of Porcine B Cells into Ig Secreting Plasma Cells

Mark S. Fife, Pirbright Institute, UK

Chicken Interferon-Inducible Transmembrane (IFITM) Proteins Are Functional and Actively Restrict Avian Viruses

Innate Responses to Infection

***William T. Golde**, Moredun Research Institute, UK

***Cynthia L. Baldwin**, University of Massachusetts, USA

Artur Summerfield, Institute of Virology and Immunology, Switzerland
Plasmacytoid Dendritic Cells in the Early Response to Infection

John A. Hammond, Pirbright Institute, UK

Genetics of Natural Killer Cell Receptors in Cattle

David A. Hume, University of Edinburgh, UK

The Role of Macrophages in Innate Immunity following Infection

Dirk Werling, Royal Veterinary College, UK

Short Talk: Differences in Inflammasome Activation between Cow Breeds Impact on Bacterial Killing

Poster Session 1

THURSDAY, JANUARY 22

Mucosal Immune Responses to Infection

***Randy E. Sacco**, National Animal Disease Center, US Department of Agriculture, USA

***Gregers Jungersen**, Technical University of Denmark, Denmark

David W. Pascual, University of Florida, USA

Mucosal Vaccines for Brucellosis

Crystal L. Loving, US Department of Agriculture, ARS, National Animal Disease Center, USA

Provocation versus Protection – Immune Responses and Differential Outcomes following Influenza Virus Vaccination and Challenge in Pigs

Massimo Amadori, Istituto Zooprofilattico Sperimentale della

Lombardia e dell'Emilia-Romagna, Italy

Immunoprophylaxis in Intensive Farming Systems: The Way Forward

Armin Saalmüller, Inst Immunology, University Veterinary Medicine, Vienna, Austria

Immune Response of Porcine CD4+ T Cells following Infection with Influenza- or PRRS Virus

Heidi Mikkelsen, National Veterinary Institute, Technical University of Denmark, Denmark

Short Talk: Vaccination with Peptides of Mycobacterium avium subspecies paratuberculosis (MAP) Reduces MAP Burden of Infected Goats

Immune Responses to Swine and Avian Influenza

***Armin Saalmüller**, Inst Immunology, University Veterinary Medicine, Vienna, Austria

***David W. Pascual**, University of Florida, USA

Kristien Van Reeth, Universiteit Ghent, Belgium

Cross-Protection Studies with Diverse Swine Influenza Viruses: A Case for Revising Cross-Protective Immunity between Influenza A Viruses

María Montoya, Centre de Recerca en Sanitat Animal and The Pirbright Institute, UK

Immune Response to Influenza Infection of Swine, Friend or Foe?

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Jesús Hernández, Centro de Investigación en Alimentación y Desarrollo, Mexico

Influenza Transmission in Swine and Birds

Ignacio Mena, Icahn School of Medicine at Mount Sinai, USA

Short Talk: Recombinant Newcastle Disease Viruses Expressing swine and Avian Influenza Hemagglutinins Induce Protective Antibody Responses in Pigs and Chickens

Elma Z. Tchilian, Pirbright Institute, UK

Short Talk: Immune Responses to a Candidate Universal Influenza Vaccine in Pigs

Poster Session 2

FRIDAY, JANUARY 23

Analysis of Immune Responses to Vector-Borne Pathogens

***Samuel James Black**, University of Massachusetts, USA

***Vish Nene**, International Livestock Research Institute, Kenya

Ivan Morrison, University of Edinburgh, UK

CD8 T Cells Mediate Immunity in Cattle that Survive Infections with Theileria parva

Jayne Raper, Hunter College, USA

Introducing Genetic Resistance for Trypanosomiasis into Sheep and Cattle

Robert H. Mealey, Washington State University, USA

Challenges Facing Chemotherapeutic and Immune Control of Theileria equi

Wendy C. Brown, Washington State University, USA

Dysfunctional CD4 T-Cell Responses during Anaplasma marginale Infection

Workshop 2: Antigen Identification and Vaccine Formulation

***W. Ray Waters**, National Animal Disease Center, USA

***Timothy Connelley**, University of Edinburgh, UK

Elizabeth Rieder, Agricultural Research Service, US Department of Agriculture, USA

Marker Foot-and-Mouth Disease Vaccine Platform: A Safe and Potentially Low-Cost Option for Global Production of Inactivated FMDV Vaccines

Douglas F. Antczak, Cornell University, USA

Identification of Peptide Motifs for Equine Major Histocompatibility Complex Class I Molecules

Mital Pandya, University of Vermont, USA

Identification of Peptides from Foot-and-Mouth Disease Virus Structural Proteins Bound by Bovine Leukocyte Antigen (BoLA) Class I Molecules

Simon Welner, National Veterinary Institute, Technical University of Denmark, Denmark

Bioinformatics Prediction of Swine MHC Class I Epitopes from Porcine Reproductive and Respiratory Syndrome Virus

Jean-Pierre Y. Scheerlinck, University of Melbourne, Australia

Immune Memory Resilience, a New Way of Evaluating Adjuvants

Charlotte R. Bell, Roslin Institute, University of Edinburgh, UK

Haematopoietic Depletion in Vaccine-Induced Bovine Neonatal Pancytopenia (BNP) Depends on the Titre and Specificity of Alloantibody and Levels of MHC I Expression

Preben Boysen, Norwegian University of Life Sciences, Norway

Transient Recruitment of Inflammatory Monocytes and Early Activation of Lymphocytes in the Draining Lymph Node of Calves following Injection of a Saponin-Based Adjuvant

Immunodeficiency Virus Infections in Veterinary Species

***Christopher K. Tuggle**, Iowa State University, USA

***Jayne Raper**, Hunter College, USA

Simon M. Barratt-Boyes, University of Pittsburgh, USA

Immunopathology of Simian Immunodeficiency Virus Infection

Hannah J. Barbian, University of Pennsylvania, USA

Short Talk: Broad and Potent Neutralization of Simian Immunodeficiency Viruses from Chimpanzees and Gorillas by Host Receptor Antibodies and CD4 Immuno-adhesins

Sue VandeWoude, Colorado State University, USA

Antibody Repertoire following Feline Immunodeficiency Virus Infection and Novel Vaccine Delivery

Mia J. Smith, Colorado State University, USA

Short Talk: A Novel Viral Immune Evasion Mechanism Suppresses the PI3-Kinase Signaling Pathway by Induction of Expression of PTEN in B Cells

Poster Session 3

SATURDAY, JANUARY 24

Immune Responses to Mycobacterium Infection

***John Barlow**, University of Vermont, USA

***Chris Chase**, South Dakota State University, USA

H. Martin Vordermeier, Animal Health & Veterinary Laboratories Agency, UK

Antigen Mining Strategies to Identify Diagnostic and Sub-Unit Vaccine Antigens of Protective of Mycobacterium bovis: Successes and Challenges

Paul M. Coussens, Michigan State University, USA

Immune Dysregulation and Regulatory T Cell Responses of Cattle to Infection with Mycobacterium avium subspecies paratuberculosis

Gregers Jungersen, Technical University of Denmark, Denmark

Short Talk: A Recombinant Multi-Stage Vaccine against Paratuberculosis Significantly Reduces Bacterial Level in Tissues without Interference in Diagnostics

Kumudika I. de Silva, University of Sydney, Australia

Short Talk: CD4+ T Cells, gamma delta T Cells and B Cells Are Associated with Non-Responsiveness to Vaccination in Mycobacterium avium subspecies paratuberculosis Infection

Jayne C. Hope, University of Edinburgh, UK

Innate Immune Responses and Bovine Tuberculosis

W. Ray Waters, National Animal Disease Center, USA

Vaccine Approaches for Bovine Tuberculosis: Correlates of Protection and Relevance to Human Tuberculosis

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Veterinary Vaccines for the 21st Century

***Ivan Morrison**, University of Edinburgh, UK

***Linda J. Saif**, Ohio State University, USA

William T. Golde, Moredun Research Institute, UK

Analysis of the Adaptive Immune Response to Foot-and-Mouth Disease Virus (FMDV) following Infection or Vaccination of Cattle or Swine

Timothy Connelley, University of Edinburgh, UK

Tracking T-Cell Responses at a Clonal Level following T. parva Infection

Vish Nene, International Livestock Research Institute, Kenya

Design of Recombinant Vaccines for East Coast Fever (ECF) via Reverse Immunology

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

SUNDAY, JANUARY 25

Departure