



with indices of metabolic health in human nutritional studies and in animal models of obesity, with a primary focus on fat cell physiology will be discussed. Potential interventions or therapies for a variety of human and animal conditions will be considered.

*Panel Discussion*

10:15 am-12:15 pm

*“Impact of Developmental Environment on the Risk of Chronic Disease”*

This keynote presentation will discuss the effects of maternal obesity and the fetal environment, especially under-nutrition and caloric restriction, on health and disease in later life. These environmental effects will be discussed relative to the biomedical and agricultural interventions or therapies to improve human health, companion animal health and farm health and production. The talk will consider any broader national and international socio-economic and medical trends related to developmental origins and how humans, companion animals and farm animals may be affected. Information about related diseases such as cardiovascular disease, obesity, diabetes, and some forms of cancer will also be presented to illustrate the broader impact of environment on risk of chronic disease.

*“Fetal Origins of Adult Disease”*

This keynote reaction and application talk will present current translational research concerning how fetal origins of adult disease may be used to improve human health, companion animal health and farm health and production. Conceptus-uterine interactions throughout gestation and the impacts of early gestational undernutrition on fetal growth and development as well as offspring health and growth efficiency will be discussed. Potential interventions or therapies for a variety of human and animal conditions will be considered.

*“Gestational Nutrition and Placental Effects on Health and Productivity”*

This keynote reaction and application talk will present current translational research concerning how domestic animal models may be used to improve animal and human nutrition, animal production and biomedicine. Discussion will be in the context how the uterine environment and gestational nutrition affect fetal and placental growth and development and, consequently, life-long health and productivity of humans and livestock. Potential interventions or therapies for a variety of human and animal conditions will be considered.

*Panel Discussion*

Lunch on Own

*Poster Viewing*

1:50 pm-3:50 pm

*“Microbial Endocrinology - Interactions of Nutrition, Host Physiology, and Microbes that impact Infectious Disease”*

This keynote presentation will discuss the role of endocrine cross-talk between enteric microbes and the host, and how these microbes contribute to the pathogenesis of infectious disease in humans and animals. The talk will explain any broader national and international trends related to intestinal and microbiologic issues and how humans, companion animals and farm animals may be affected. Current research about related disease states or developmental abnormalities will also be presented to illustrate the broader impact.

All Speakers

Dr. Peter Nathanielsz,  
University of Texas Health  
Science Center San  
Antonio

Dr. Stephen Ford,  
Department of Animal  
Science, University of  
Wyoming

Dr. Lawrence Reynolds,  
North Dakota State  
University

All Speakers

Dr. Mark Lyte, Texas Tech  
University Health Sciences  
Center

*“Interventions to Reduce Pathogens in Swine and Cattle”*

This reaction and application talk will discuss current translational research to identify ecological factors impacting zoonotic and enteropathogens within the gut and determine if the host’s hormonal status can be exploited to develop alternatives to antibiotics in order to improve food safety, human and animal health. Potential interventions or therapies for a variety of human and animal conditions will be considered.

Dr. Todd Callaway, USDA-  
Texas A&M University

*“Etiology of Inflammatory Bowel and Liver Diseases in Small Animals and Humans”*

This reaction and application talk will discuss current translational research concerning host-bacterial interactions in the gastrointestinal tract, specifically focusing on the etiopathogenesis of inflammatory bowel disease and the zoonotic potential *Helicobacter* in small animals and humans. Potential interventions or therapies for a variety of human and animal conditions will be considered.

Dr. Kenneth Simpson,  
Cornell University

*Panel Discussion*

All Speakers

3:55 pm -5:55 pm

*“Nutritional Impact of Inflammation and Infection”*

This keynote presentation will cover how the inflammatory response and immune activation affect nutritional physiology, metabolism, and productive processes in humans and animals. The impact of mucosal inflammation and infection and the effects of vaccination on whole-animal physiology will be discussed. The talk will explain any broader national and international trends related to nutritional impact on the immune system and how humans, companion animals and farm animals may be affected. Current research about related disease states or developmental abnormalities will also be presented to illustrate the broader impact.

Dr. Charles Dinarello,  
University of Colorado,  
Denver

*“The Cost of Immune Protection – Nutritional Accounting and Production Efficiency”*

This reaction and application talk will discuss current translational research concerning how the immune response affects nutritional requirements and how productive and reproductive efficiency are altered following immune activation. Nutritional strategies or interventions to boost immune defenses and minimize the clinical insults on productivity for a variety of human and animal conditions will be considered.

Dr. Kirk C. Klasing,  
University of California,  
Davis

*“Sculpting the Optimal Immune Response”*

This reaction and application talk will discuss current translational research describing the potential to model the ideal immune response. Potential nutritional strategies and interventions such as vaccinations directed toward host inflammatory molecules in order to limit inflammatory damage and improve human health, companion animal health, and farm animal health and production will be considered.

Dr. Mark Cook, University  
of Wisconsin-Madison

*Panel Discussion*

All Speakers

6:00 pm-7:30 pm

*Awards and Evening Cocktail Reception*