

2024 INTERNATIONAL LIVESTOCK CONGRESS

ADAPTING LIVESTOCK AND MEAT PRODUCTION FOR THE FUTURE

FEBRUARY 28-29, 2024

NRG CENTER IN HOUSTON, TEXAS USA



INTERNATIONAL STOCKMAN'S EDUCATIONAL FOUNDATION IN PARTNERSHIP WITH THE HOUSTON LIVESTOCK SHOW AND RODEO



International Stockmen's Educational Foundation in partnership with Houston Livestock Show and Rodeo



ADAPTING LIVESTOCK AND MEAT PRODUCTION FOR THE FUTURE

WELCOME SPEAKERS



James O. Reagan, PhD
Chairman, International
Stockmen's Educational Foundation



Chris Boleman
C.E.O., Houston Livestock
Show and Rodeo



Randy Pauly
Chair, International Committee,
Houston Livestock Show and Rodeo

MODERATORS



Jessica Finck, PhD
Sr. Account Manager, Meat
Scientist, Merck Animal Health



Don Close
Chief Research and
Analytics Officer, Terrain



Tommy Wheeler, PhD
Research Leader
ARS, USDA



Randal Garrett, PhD
Chief Technical Officer,
FSNS-Certified Group

WEDNESDAY, FEBRUARY 28, 2024

7:00 - 8:30 am Registration and continental breakfast

8:45 - 9:00 am **Welcome**
James O. Reagan, PhD, JM Dorpers, Chairman, International Stockmen's Educational Foundation
Chris Boleman, C.E.O., Houston Livestock Show and Rodeo
Randy Pauly, Chair, International Committee, Houston Livestock Show and Rodeo

9:00 - 9:40 am **Moderator: Jessica Finck, PhD**, Sr. Account Manager, Meat Scientist, Merck Animal Health
Water Availability and Policy Concerning Crop, Livestock, and Meat Production: Bridget Guerrero, PhD, Associate Professor of Agricultural Business and Economics, Paul Engler College of Agriculture and Natural Sciences, West Texas A&M University

9:40 - 10:00 am Break and Networking

10:00 - 10:40 am **Rainwater Collection System in the Cattle Sector; Contributions from the Bio-Economic Perspective: Rigoberto Rodriguez, PhD**, National University of Costa Rica; On behalf of the Costa Rica Cattlemen's Association

10:40 - 11:20 am **A Discussion on Current Water Stewardship Activities Practiced by Tyson Foods Red Meat Facilities, and Forward-Looking Opportunities for the Industry: Kim Dirks**, Senior Director Environmental Operations, Tyson Foods, Inc.

11:20 - 12:00 pm **A Perspective on Water Recycling in a Green Field Beef Harvest Facility: John Scanga, PhD**, Chief Scientific Officer, Eurofins Microbiological Laboratories Meat Division; Professor, Center for Meat Safety and Quality, Colorado State University

12:00 - 1:30 pm Lunch - Student and Alumni Recognition

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1:30 - 2:10 pm	Moderator: Jessica Finck, PhD New Technologies for Recycling Plant and Agricultural water: Jim Mothersbaugh, CEO, WaterTectonics
2:10 - 2:50 pm	Economic Pressures Resulting from Declining Access to Water in the Livestock & Meat Industry: Dave Weaber, Senior Animal Protein Analyst, Terrain
2:50 - 3:10 pm	Break/Networking
3:10 - 4:00 pm	Discussion Panel with Morning Speakers
4:00 - 4:40 pm	Moderator: Don Close, Chief Research & Analytics Officer, Terrain Status of Using Antibiotics, Growth Promotants, and Feed Supplements to Improve Livestock Efficiency: Michael Apley, DVM, PhD, Professor and Frick Professorship, Production Medicine/Clinical Pharmacology, College of Veterinary Medicine, Kansas State University
4:40 - 5:20 pm	Ecology of Antimicrobial Resistance and Implications for Antimicrobial Use and Livestock Management: Noelle Noyes, DVM, PhD, Associate Professor, University of Minnesota
5:20 - 6:00 pm	New Sustainable Growth Promotion-Experior® (Iubabegron): Bailey N. Harsh, PhD, Assistant Professor, Meat Science Laboratory, College of Agricultural, Consumer & Environmental Sciences, Animal Sciences, University of Illinois Urbana-Champaign
6:00 - 7:00 pm	International Committee Reception (followed by Rodeo)

THURSDAY, FEBRUARY 29, 2024

7:00 - 8:00 am	Continental breakfast
8:00 - 8:10 am	Moderator: Tommy Wheeler, PhD, Research Leader, Meat Safety and Quality, USDA-ARS-USMARC
8:10 - 8:50 am	Role of Meat in Society—What the Science Says: Alice V. Stanton, PhD, MB, BCh, BAO, BSc, Professor, Pharmacy and Biomolecular Sciences, University of Medicine & Health Sciences
8:50 - 9:30 am	Establishing Consumer Trust: Mack Graves, Latigo Management & Marketing Consultants
9:30 - 9:50 am	Break/Networking
9:50 - 10:30 am	Developing the Next Generation of Leaders in Meat and Livestock: Collette Kaster, CEO, American Meat Science Association
10:30 - 11:10 am	Moderator: Randal Garrett, PhD, Chief Technical Officer, FSNS-Certified Group U.S. Dietary Guidance Policy and Recommendations—Role of Meat in the Diet: Teresa Davis, PhD, Baylor College of Medicine
11:10 - 11:50 am	Healthy Dietary Patterns with Beef: Shalene McNeill, PhD, RDN, Executive Director of Nutrition Science, Health & Wellness, National Cattlemen's Beef Association
11:50 - 12:30 pm	What's Next? Randal Garrett, PhD, Chief Technical Officer, FSNS-Certified Group

ADAPTANDO LA PRODUCCION DE GANADO Y DE CARNE PARA EL FUTURO

MIÉRCOLES 28 DE FEBRERO, 2024

7:00 - 8:30 am Registro y desayuno continental

8:45 - 9:00 am **Bienvenida**
James O. Reagan, PhD, JM Dorpers, Presidente, International Stockmen's Educational Foundation
Chris Boleman, C.E.O., Houston Livestock Show and Rodeo
Randy Pauly, Presidente del Comité Internacional de Houston Livestock Show and Rodeo

9:00 - 9:40 am **Moderador: Jessica Finck, PhD**, Sr. Account Manager, Meat Scientist, Merck Animal Health
Disponibilidad del Agua y Políticas Concernientes a Cultivos y a la Producción de Ganado y de Carne: Bridget Guerrero, PhD, Profesor Asociado de Economía Agrícola, Paul Engler College of Agriculture and Natural Sciences, West Texas A&M University

9:40 - 10:00 am **RECESO**

10:00 - 10:40 am **Sistema de Recolección de Agua de Lluvia en el Sector Ganadero; Contribuciones Desde el Punto de Vista Bio-económico: Rigoberto Rodriguez, PhD**, Universidad Nacional de Costa Rica; en representación de la Asociación Ganadera de Costa Rica

10:40 - 11:20 am **Discusión sobre Actividades Acuables de Manejo del Agua en las Instalaciones de Carnes Rojas de Tyson Foods y oportunidades futuras para la industria: Kim Dirks**, Senior Director Environmental Operations, Tyson Foods, Inc.

11:20 - 12:00 pm **Perspectiva del Reciclaje de Agua en una Instalación de Producción de Carne Vacuna de Green Field Beef: John Scanga, PhD**, Chief Scientific Officer for Eurofins Microbiological Laboratories Meat Division; Professor, Center for Meat Safety and Quality, Colorado State University

12:00 - 1:30 pm **Almuerzo- Reconocimiento a Estudiantes y Ex-Alumnos**

1:30 - 2:10 pm **Jessica Finck, PhD**, Sr. Account Manager, Meat Scientist, Merck Animal Health
Nuevas Tecnologías para una Planta de Reciclaje y Agua Agrícola: Jim Mothersbaugh, CEO, WaterTectonics

2:10 - 2:50 pm **Presiones Económicas como Resultado de la Reducción del Acceso al Agua en el Sector Cárnico y Ganadero: Dave Weaver**, Senior Animal Protein Analyst, Terrain

2:50 - 3:10 pm **RECESO**

3:10 - 4:00 pm **Panel con los ponentes de la mañana**

4:00 - 4:40 pm **Moderador: Don Close**, Chief Research & Analytics Officer, Terrain
Status en el Uso de Antibióticos, Promotores del Crecimiento y Suplementos Alimenticios para Mejorar la Eficiencia Ganadera: Michael Apley, DVM, PhD, Professor and Frick Professorship, Production Medicine/Clinical Pharmacology, College of Veterinary Medicine, Kansas State University

4:40 - 5:20 pm **Ecología de la Resistencia Antimicrobiana e Implicaciones en el Uso de Antimicrobianos y el Manejo Ganadero: Noelle Noyes, DVM, PhD**, Profesor Asociado, Universidad de Minnesota.

5:20 - 6:00 pm **Experior (lubabegron), Nuevo Promotor de Crecimiento Sustentable: Bailey N. Harsh, PhD**, Assistant Professor, Meat Science Laboratory, College of Agricultural, Consumer & Environmental Sciences, Animal Sciences, University of Illinois Urbana-Champaign

6:00 - 7:00 pm **Cocktail del Comité Internacional (seguido por el Rodeo)**

ADAPTANDO LA PRODUCCION DE GANADO Y DE CARNE PARA EL FUTURO

JUEVES 29 DE FEBRERO, 2024

7:00 - 8:00 am **Desayuno Continental**

8:00 - 8:10 am **Moderador: Tommy Wheeler, PhD**, Research Leader, Meat Safety and Quality, USDA-ARS-USMARC

8:10 - 8:50 am **Papel de la Carne en la Sociedad – Lo que Dice la Ciencia: Alice V. Stanton, PhD, MB, BCh, BAO, BSc**, Professor, Pharmacy and Biomolecular Sciences, University of Medicine & Health Sciences

8:50 - 9:30 am **Estableciendo Confianza en el Consumidor: Mack Graves**, Latigo Management & Marketing Consultants

9:30 - 9:50 am **RECESO**

9:50 - 10:30 am **Desarrollando la Próxima Generación de Líderes en el Sector Cárnico y Ganadero: Collette Kaster**, CEO, American Meat Science Association

10:30 - 11:10 am **Moderador: Randal Garrett, PhD**, Chief Technical Officer, FSNS-Certified Group
Política y Recomendaciones de la Guía Dietética de los Estados Unidos. Papel de la Carne en la Dieta: Teresa Davis, PhD, Baylor College of Medicine

11:10 - 11:50 am **Modelos Dietéticos Saludables con Carne Vacuna: Shalene McNeill, PhD, RDN**, Executive Director of Nutrition Science, Health & Wellness, National Cattlemen's Beef Association

11:50 - 12:30 pm **¿Qué sigue? Randal Garrett, PhD**, Chief Technical Officer, FSNS-Certified Group




Michael Apley, DVM, PhD

Professor and Frick Professorship, Production Medicine/Clinical Pharmacology, College of Veterinary Medicine, Kansas State University

Dr. Apley is a veterinarian with a PhD in physiology (pharmacology). He is a Diplomate of the American College of Veterinary Clinical Pharmacology. His practice background includes general practice in central Kansas and a feedlot consulting/contract research practice based in Colorado. Dr. Apley was on the College of Veterinary Medicine faculty at Iowa State University for 9 years through 2005. He is currently a professor in the Department of Clinical Sciences at the Kansas State University College of Veterinary Medicine. Dr. Apley works with veterinarians and producers throughout the United States concerning the use of drugs in food animals and also in the area of beef cattle health.


Teresa Davis, PhD

Baylor College of Medicine

Teresa Ann Davis, Ph.D. is a Professor of Pediatrics at the Children's Nutrition Research Center at Baylor College of Medicine in Houston, Texas. She received her doctorate from the University of Tennessee and her postdoctoral training from Washington University School of Medicine in St. Louis, Missouri. Dr. Davis is internationally recognized for her studies on the nutritional regulation of skeletal muscle growth. She was a member of the USDA/HHS 2020 Dietary Guidelines Advisory Committee and President of both the American Society for Nutrition and the American Society of Animal Science. Dr. Davis received the Stockstad Award from the American Society for Nutrition and both the Animal Growth and Development Award and the Morrison Award from the American Society of Animal Science. She is a Fellow of both the American Society for Nutrition and the American Society of Animal Science. Dr. Davis is the Editor-in-Chief of The Journal of Nutrition.


Kim Dirks

Senior Director Environmental Operations, Tyson Foods, Inc.

Kim Dirks is responsible for the Tyson Environmental Center of Excellence along with dredging operations. These duties encompass support of all environmental media (air, waste, and water) aspects associated with company operations, Environmental Management System processes, remediation projects, environmental due diligence, management of environmental reserves, and interaction with regulatory agencies on current and developing issues. Current water stewardship projects include developing contextual water target approaches for high-risk global Tyson Foods operations, improving wastewater and brine management processes, and research on direct potable reuse (DPR) of beef, pork, and poultry processing wastewater. Kim received his B.S.S. in Biology from Cornell College. He has been Chair of the North American Meat Institute Environmental Advisory Group, and the American Leather Chemists Environmental Committee.


Randal Garrett, PhD

Chief Technical Officer, FSNS-Certified Group

Randal Garrett received his BS and MS in Animal Science and a PhD in Meat Science and Muscle Biology from Texas A&M University. He currently serves as the Chief Technical Officer of FSNS-Certified Group. He serves as Chair Development Council for the American Meat Science Association and is affiliated with the Institute of Technologist, and IAFP member, and a board member of the International Stockmen's Education Foundation. Dr. Garrett is HACCP trained and skilled in basic techniques in food microbiology, biochemistry, and meat processing.


Mack Graves

Latigo Management & Marketing Consultants

Over the past thirty-nine years, Mack H. Graves has been active worldwide in animal-food protein businesses and support concerns. He specializes in corporate strategy, management focus and marketing effectiveness in companies and organizations across the protein chain from beef to poultry and seafood. Since 1995, Latigo Management & Marketing Consultants, Inc., the consulting firm Graves founded, has helped many companies more clearly define and implement their management focus and exact their marketing programs. Graves speaks nationally and internationally on meat and poultry marketing issues with particular emphasis on establishing consumer-trusted brands. He also counsels firms on natural and organic meat and poultry marketing in which Graves is recognized as an expert creating local and sustainable programs. Nurtured on his parent's ranch, Graves' agriculture experience progressed to senior levels at Armour Food Company, a division of ConAgra, on to senior production and marketing positions at Perdue Farms, Inc., general management positions at Clearwater Fine Foods, USA, Coleman Natural Products, Inc., Meyer Natural Angus and Western Grasslands, Inc.


Bridget Guerrero, PhD

Associate Professor of Agricultural Business and Economics, Paul Engler College of Agriculture and Natural Sciences, West Texas A&M University

Dr. Bridget Guerrero is an Associate Professor of Agricultural Business and Economics at West Texas A&M University in Canyon, TX. She received a Bachelor of Science in Agribusiness in 2002 and a Master of Business Administration in 2003 from West Texas A&M University. She earned her doctoral degree in Agricultural and Applied Economics from Texas Tech University in 2010. Bridget's research interests include socioeconomic modeling, water policy, production agriculture, and renewable energy. She has worked extensively with the Ogallala Aquifer Program to develop a series of Extension publications to help communicate the regional economic contribution of different agricultural-related sectors as well as their water use. She has also incorporated her research into the classroom to help the next generation think about water use in the agricultural production process.



Bailey N. Harsh, PhD

*Assistant Professor, Meat Science Laboratory,
College of Agricultural, Consumer &
Environmental Sciences, Animal Sciences,
University of Illinois Urbana-Champaign*

Bailey Harsh is a current faculty at the University of Illinois, holding the rank of assistant professor. Originally from Radnor, Ohio, Bailey obtained her B.S. degree in Animal Science in 2013 from The Ohio State University. Bailey completed her M.S. degree in Meat Science at Oklahoma State University and Ph.D. in Meat Science at the University of Illinois where her research focused on the effects of a beta-agonist on nitrogen excretion, nutrient digestibility, as well as protein abundance of beta-receptor subtypes. Bailey's current research focuses on improving the efficiency of lean meat production and the quality of fresh and processed meat products by developing applied production strategies and technologies.



Collette Kaster

CEO, American Meat Science Association

Collette Kaster has a passion for improving animal agriculture along with showing people all the great opportunities it can offer. She loves to help people better understand how food is produced and the role of meat in the diet. After 25 years of experience in the meat industry, leading large teams in the areas of technical services and livestock procurement, she currently serves as the CEO of the American Meat Science Association (AMSA) as well as the Executive Director for the Professional Animal Auditor Certification Organization (PAACO). She is an AMSA Fellow and has served on the Advisory Committee for Meat and Poultry Inspection, and currently serves on many association and company advisory committees in the areas of animal welfare, food safety, and meat quality.



Shalene McNeill, PhD, RDN

Executive Director of Nutrition Science, Health & Wellness, National Cattlemen's Beef Association

Shalene H. McNeill, Ph.D., RD, is an internationally recognized authority on the role of meat in the human diet. As a nutrition scientist and registered dietitian, Dr. McNeill has devoted her career to advocating for science on livestock's role in healthy, sustainable food systems. She earned a Bachelor of Science in Biomedical Science at Texas A&M before pursuing a PhD. In 2005, she joined National Cattlemen's Beef Association as Executive Director of Nutrition Research and now leads the health and wellness initiatives for the nation's largest cattle organization. She has directed over \$30 million for research to advance the scientific understanding of beef's role across the lifespan. Dr. McNeill is highly respected for her scientific opinion, often invited as an expert speaker for scientific, industry and various other public forums, and has conducted over 200 interviews with local, national and international media.



Jim Mothersbaugh

CEO, WaterTectonics

Jim Mothersbaugh is the Founder and Chief Executive Officer of WaterTectonics. Established in 1999 and headquartered in Everett, Washington, USA, WaterTectonics Inc. designs, manufactures, deploys, and services integrated water treatment solutions for clients in oil & gas, mining, industrial, and construction applications with a focus on electrochemical technology. Jim graduated with a degree in chemistry from the University of Washington and spent his early professional career with Food Machinery Corp (FMC) as the West Coast Regional Lead for new products and applications. Since 1991, Jim's focus has been in the field of electro-chemistry. Jim's visionary leadership and ingenuity in water chemistry and practical application have guided WaterTectonics for nearly 25 years.



Noelle Noyes, DVM, PhD

Associate Professor, University of Minnesota

Noelle Noyes, M.A., D.V.M., Ph.D., holds a McKnight Land-Grant Professorship in the Department of Veterinary Population Medicine at the University of Minnesota. Noelle received her BA in European Studies from Amherst College and her MA from Osnabrück Universität, Germany while conducting independent research on an Alexander von Humboldt Fellowship. She enrolled in the DVM-PhD dual-degree program at Colorado State University, where she received her doctorate in epidemiology, a USDA NIFA post-doctoral fellowship, and her veterinary degree with a focus in large animal medicine.



Rigoberto Rodriguez, PhD

National University of Costa Rica; On behalf of the Costa Rica Cattlemen's Association

Dr. Rodriguez earned his PhD in Public Management and Business Sciences from Central American Institute of Public Administration (ICAP); MSc. in International Agribusiness, University of Gottingen, Germany; Lic. in Agricultural Economics, University of Costa Rica. Academic of the Chorotega Regional Headquarters of the National University. He teaches in the specialties of Administration, Sustainable Tourism, Commerce and International Business. In addition, Dr. Rodriguez works on development projects related to natural resources, water, climate change, among others. Dr. Rodriguez has various national and international publications on topics such as wetlands, management plans, tourist observatory, water harvesting, sustainable production and food security.



John Scanga, PhD

Chief Scientific Officer, Eurofins Microbiological Laboratories Meat Division; Professor, Center for Meat Safety and Quality, Colorado State University

Dr. John Scanga received his Ph.D. in Animal Sciences from Colorado State University in Fort Collins, CO. He and his wife Chauna and their sons Sam and Ian reside in Ault, Colorado, and operate a diversified farming operation. His experience includes Associate Professor in the Center for Meat Safety and Quality at Colorado State University, Vice President of Technical Services for IEH Laboratories, Technical Consultant at Elanco Animal Health and Vice President of Quality Assurance and Procurement at Meyer Natural Foods. He has served his community and the meat and livestock industry as President of his local school board, an AMSA Board and Foundation director and is currently serving as Chairman of the Colorado Beef Council. Dr. Scanga holds positions as Chief Scientific Officer for Eurofins Microbiological Laboratories Meat Division and is a Professor in the Center for Meat Safety and Quality at Colorado State University.



Alice V. Stanton, PhD, MB, BCh, BAO, BSc

Professor, Pharmacy and Biomolecular Sciences, University of Medicine & Health Sciences

Professor Alice Stanton is a clinician-scientist. Current roles include; Professor of Cardiovascular Therapeutics at the RCSI University of Medicine and Health Sciences, and Consultant concerning Animal Source Foods and Human Health. She served on the Committee developing "Ireland's Agri-food Strategy to 2030", and as an Assembly Member for the Horizon Europe Cancer Mission. She is a Member of the Irish Climate and Health Coalition, the World Action against Salt, Sugar, and Health (WASSH), Meat Technology Ireland, and the Scientific Council of World Farmers Organisation. She has authored in excess of 150 peer-reviewed published papers (Scopus h-index 59), and delivered many lectures concerning evidence-based healthy diets from sustainable food systems. Recently, she was lead author on a Lancet letter, which robustly questioned the reliability of the Global Burden of Disease 2019 collaborators' estimates of deaths attributable to unprocessed red meat.



Dave Weaber

Senior Animal Protein Analyst, Terrain

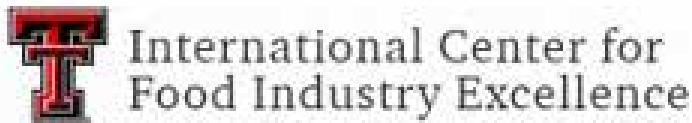
Dave Weaber is Terrain's animal protein analyst. Dave's career analyzing the animal and meat production business has spanned many sectors of the meat supply chain, from primary production, slaughter and processing to the retail grocery and food service sectors. His career's work has covered the beef, pork and poultry industries. Dave has experience translating broad market and supply chain trends into actionable strategy for cattle and pork producers. He has served as a trustee of the Colorado 4-H Youth Fund and on the National Pork Board Retail Advisory Committee. Dave earned his BS and MS in animal science and ruminant nutrition from Colorado State University.

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The Houston Livestock Show and Rodeo™ offers visitors from all over the world the opportunity to educate themselves and discuss major livestock issues on a global level with top world leaders in the field. The International Committee is honored to host the International Livestock Congress during the Show.



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