

Detailed Program Agenda



8th International Greenhouse Gas & Animal Agriculture Conference (GGAA)

June 5-9, 2022 | Orlando, Florida, USA

<https://conference.ifas.ufl.edu/ggaa/>

The **8th International Greenhouse Gas and Animal Agriculture Conference (GGAA)** is generally attended by more than 400 delegates from over 40 countries. The conference will feature approximately 6 keynote speakers and a series of pre-conference workshops with an attendance limited to approximately 30 delegates per workshop. Meetings of the Global Research Alliance on Agriculture Greenhouse Gases will be hosted after the conference to enhance international research and networking.

GGAA 2022 aims to present the latest research on the mitigation of greenhouse gases, measurement and modeling, as well as to discuss on-farm practices and policies to address the challenges associated with agricultural practices and their impact on greenhouse gases. The conference will feature highly respected and internationally renowned speakers, who will review the state of the art and present significant new developments in the field. Attendees will benefit by learning the latest research on greenhouse gas emissions in the field of animal agriculture, and by the tremendous networking opportunities that this conference offers. A Technical field trip visit will complement scientific discussions, by showcasing Florida agricultural systems and the sustainable management of natural resources. Bringing this conference to the U.S. for the first time will provide an opportunity to show the impact of this field of research on a very important sector of the U.S. economy.

We look forward to seeing you at GGAA 2022 in Orlando, Florida USA!

Please Note: The official language of the conference is English. All presentations (oral and poster), and the book of abstracts, will be in English. The agenda is subject to change based on confirmation of all scheduled presentations.

Sunday, June 5, 2022 OPTIONAL Meetings & Workshops

(advance registration required to participate)

	https://conference.ifas.ufl.edu/ggaa/optional-workshops-meetings.html
8:00 AM	Registration Opens for Morning Workshop Participants [PALM FOYER]
8:00 AM	Morning Refreshments for Participants of C-LOCK Workshop [PALM FOYER]
9:00 AM - 12:30 PM	C-LOCK Workshop [PALM F & G]
10:00 AM - 11:30 AM	GRA/AHN Animal Health & Greenhouse Gas Emissions Intensity Network [Jasmine & Magnolia]
11:00 AM - 7:00 PM	Conference Registration Officially Opens [PALM FOYER] - Sponsors Move-in Display Materials - [PALM E]
1:00 PM - 5:00 PM	Reducing Enteric CH ₄ Emissions from Sub-Saharan Africa [PALM A]
1:00 PM - 5:30 PM	Feed and Nutrition Network (FNN) Meeting [Jasmine & Magnolia]
1:00 PM - 5:30 PM	Data Management Workshop [PALM I]
3:00 PM - 5:30 PM	Manure Management Network (MMN) Group Meeting [Oleander A & B]
6:30 PM - 8:30 PM	C-LOCK GreenFeed Systems In-depth Users Training [PALM F & G]
	Evening on Own

Monday, June 6, 2022

7:00 AM - 5:30 PM	Conference Registration Open [PALM FOYER]
7:00 AM - 8:00 AM	Morning Refreshments in Poster & Sponsor Display Hall [PALM E]
OPENING PLENARY SESSION [PALM B-D]	
8:00 AM - 10:00 AM	MODERATOR: Dr. Nicolas DiLorenzo , Conference Chair, Professor and Beef Cattle Specialist, UF/IFAS North Florida Research and Education Center and Department of Animal Sciences, Marianna, Florida, USA
8:05 AM	Welcome and Introductions: Dr. Nicolas DiLorenzo , Conference Chair, University of Florida - <i>and</i> - Dr. Darren Henry , GGAA Co-Chair, and Assistant Professor, Department of Animal and Dairy Science, University of Georgia - Tifton, Tifton, Georgia USA
8:10 AM	Opening Remarks: Dr. Junichi Takahashi , GGAA Founder and Professor Emeritus Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan
8:15 AM	Welcome on behalf of University of Georgia: Dr. Nick Place , Dean and Director, College of Agricultural and Environmental Sciences, University of Georgia, Athens, GA, USA
8:30 AM	Welcome on behalf of University of Florida/IFAS: Dr. J. Scott Angle , Vice President for Agriculture and Natural Resources, University of Florida/IFAS, Gainesville, Florida, USA
8:35 AM	Welcome from Local Host: Dr. John Arthington , Chairman, University of Florida/IFAS Department of Animal Sciences, Gainesville, Florida
8:40 AM	Special Remarks - Introduction of Keynote Speakers
8:45 AM	KEYNOTE SPEAKER: Dr. Frank M. Mitloehner , Professor and Air Quality Extension Specialist, Department of Animal Sciences, University of California, Davis, California — <i>Rethinking Methane from Animal Agriculture</i>
9:20 AM	KEYNOTE SPEAKER: Dr. Anne Mottet , Livestock Development Officer, Animal Production and Health Division (NSA), Natural Resources and Sustainable Production Stream, Food and Agriculture Organization of the United Nations (FAO), Rome, Italy — <i>Enhancing the Role of Livestock in Climate Action: Global Perspectives, Policies and Investments</i>
9:55 AM	Concluding Remarks
10:00 AM - 10:30 AM	Refreshment Break in Poster & Sponsor Display Hall

Monday, June 6, 2022 (continued)

CONCURRENT SESSIONS 1 & 2

10:30 AM - 12:00 PM	SESSION 1	SESSION 2
LOCATION	[PALM B-D]	Jasmine & Magnolia
SESSION	Mitigation of GHG Emissions from Livestock Systems	Pastures and Forages
MODERATOR	Dr. Gbola Adesogan , Director and Principal Investigator, Feed the Future Innovation Lab for Livestock Systems (LSIL), Gainesville, Florida, USA	Dr. Jose Dubeux , North Florida Research and Education Center, University of Florida, Marianna, Florida, USA
10:30 AM	Session Introduction & Overview	Session Introduction & Overview
10:35 AM	Jesper Nørlem Kamp Aarhus University, Aarhus, Aarhus, Denmark Large Potential for Mitigation of Methane Emissions from Slurry Tanks with Early Tank Acidification	Amir Behrouzi University of Alberta, Canada Methane and Carbon Dioxide Emissions from Crossbred Beef Cattle Grazing Native Pastures
10:50 AM	Philip Moore USDA/ARS, Fayetteville, Arkansas, USA Ammonia and Greenhouse Gas Emissions from Broiler Chickens Can be Reduced by Growing Younger Birds	Robert Boddey Embrapa Agrobiologia, Seropedica, Rio de Janeiro, Brazil <i>Desmodium heterocarpon</i> : A Stoloniferous Forage Legume for Low GHG Emission Livestock Production
11:05 AM	Veronika Overmeyer University of Bonn, Institute of Agricultural Engineering, Bonn, Germany Impact of a Retrofit In-house Slurry Acidification on Ammonia and Methane Emissions from Fattening Pig Barn	Tommy Boland University College Dublin, Dublin, Ireland The Impact of Sward Type on Animal Performance and the Carbon Footprint of Beef Production
11:20 AM	Sharon Aarons Agriculture Victoria Research, Department of Jobs, Precincts and Regions, Macleod, Victoria, Australia Amending Dairy Manure to Reduce Ammonia Volatilisation Can Influence GHG Emissions	Nico Peiren Flanders Research Institute for Agriculture, Fisheries and Food, Merelbeke, Oost-Vlaanderen, Belgium Life Weight Gain and Methane Production of Grazing Heifers on Tall Fescue and Perennial Ryegrass
11:35 AM	Magnus Nyvold N ₂ Applied, Oslo, Norway Plasma-Based Nitrogen-Fixation Can Reduce Ammonia and Methane Emissions from Livestock Manure	Jose Dubeux Center for Nuclear Energy in Agriculture, Piracicaba, SP, Brazil Methane and Carbon Dioxide Emissions from Excreta of Beef Steers Fed a Tannin-Rich Legume
11:50 AM	Discussion Period	Discussion Period
12:00 PM - 1:30 PM	BOXED LUNCH PROVIDED TO REGISTERED ATTENDEES	

Monday, June 6, 2022 (continued)

CONCURRENT SESSIONS 3 & 4

1:30 PM - 3:00 PM	SESSION 3	SESSION 4
LOCATION	[PALM B-D]	Jasmine & Magnolia
SESSION	GHG Emissions: Measurement and Management Considerations	GHG Emissions from Grazing Systems
MODERATOR	Dr. Camila Muñoz, Instituto de Investigaciones Agropecuarias, INIA Remehue, Osorno, Región de Los Lagos, Chile	Dr. Carissa Wickens, University of Florida, Gainesville, Florida, USA
1:30 PM	Session Introduction & Overview	Session Introduction & Overview
1:35 PM	<p>Ken Casey Texas A&M Agrilife Research, Amarillo, Texas, USA</p> <p>Exploratory Area Integrated Measurements of Nitrous Oxide Emissions from a Texas Beef Cattle Feedyard</p>	<p>Galen Erickson University of Nebraska, Lincoln, Nebraska, USA</p> <p>Impacts of Cow System on Greenhouse Gas Emissions of Beef Production</p>
1:50 PM	<p>Lilong Chai University of Georgia, Athens, Georgia, USA</p> <p>Mitigating Ammonia Emissions from Litter of Cage-free Laying Hens</p>	<p>Carlos Alfredo Gomez Bravo Universidad Nacional Agraria La Molina, Lima, Peru</p> <p>Evaluation of Enteric Methane Emission in Grazing Cattle Supplemented with Oat Plus Common Vetch Hay in the High Andean Zone of Peruvian Highlands</p>
2:05 PM	<p>Robert Dungan USDA-ARS, Kimberly, Idaho, USA</p> <p>Growing and Non-growing Season Nitrous Oxide Emissions from Irrigated Crops Utilizing Dairy Manure</p>	<p>Laura Bibiana Gualdrón-Duarte Universidad Nacional Mayor de San Marcos, Maranganí Cusco, Peru</p> <p>Methane Emissions from Alpacas under Grazing Conditions during the Dry Season in the Peruvian Andes</p>
2:20 PM	<p>Rachael Murphy Teagasc Research Johnstown Castle, Wexford, Wexford, Ireland</p> <p>Nitrous Oxide Emissions from a Grazed Grassland: Using Eddy Covariance and Static Chambers in Tandem</p>	<p>Nicolas Caram University of Florida, School of Agronomy Uruguay, Gainesville, Florida, USA</p> <p>Impacts of Native Grassland Grazing Management in Uruguay on National Enteric Methane Emissions of Beef Cattle Systems</p>
2:35 PM	<p>Jasmine Dillon Colorado State University, Fort Collins, Colorado, USA</p> <p>Impact of Carbon Sequestration on the Carbon Footprint of Beef Produced on a Florida Ranch</p>	<p>Alex Maia State University of São Paulo (UNESP), Jaboticabal, São Paulo, Brazil</p> <p>Methane Emission in Holstein Animals and Mitigation with Shading from Photovoltaics Panel</p>
2:50 PM	Discussion Period	Discussion Period
3:00 PM - 3:30 PM	Refreshment Break in Poster & Sponsor Display Hall	

Monday, June 6, 2022 (continued)

CONCURRENT SESSIONS 5 & 6

3:30 PM - 5:00 PM	SESSION 5	SESSION 6
LOCATION	[PALM B-D]	Jasmine & Magnolia
SESSION	Additives for Enteric or Manure Methane Emission Reduction	Measurement of Enteric Methane
MODERATOR	Dr. Francine Henry, University of Georgia, Department of Animal and Dairy Science, Tifton, Georgia, USA	Mr. Scott Zimmerman, C-Lock Inc., Rapid City, South Dakota, USA
3:30 PM	Session Introduction & Overview	Session Introduction & Overview
3:35 PM	<p>Nicola Walker DSM Nutritional Products, Kaiseraugst, Aargau, Switzerland</p> <p>Effect of 3-Nitrooxypropanol Alone and in Combination with Essential Oils on Methane Production and Dairy Cow Performance</p>	<p>Gérard Xavier Djidjoho GBENOU University of Abomey-Calavi, Cotonou, Republic of Benin, Bobo-Dioulasso, Houet, Republic of Burkina Faso</p> <p>In Vivo Measurement of Enteric Methane Emission from Local West African Zebu Cattle using the Greenfeed System</p>
3:50 PM	<p>Alexander Hristov The Pennsylvania State University, University Park, Pennsylvania, USA</p> <p>Effective Nutritional Strategies to Mitigate Enteric Methane in Dairy Cattle</p>	<p>Grete Jørgensen Norwegian Institute of Bioeconomy Research, Tjøtta, Nordland, Norway</p> <p>Seasonal Variations in GHG Emissions from Norwegian Dairy Cattle</p>
4:05 PM	<p>Elena Minnee DairyNZ, Hamilton, Waikato, New Zealand</p> <p>Can an Automated In-paddock Feeder Successfully Deliver a Methane Inhibitor to Grazing Dairy Cattle?</p>	<p>Elvira Sattarova Aarhus University, Foulum, Tjele, Denmark</p> <p>Effects of Dietary Fiber Source on Enteric Methane Emission from Growing Pigs and Gestating Sows</p>
4:20 PM	<p>Kairi Tanaka North Carolina State University</p> <p>Inhibition of Methanogenesis by Exploring Hydrogen Destination</p>	<p>Anouk van Breukelen Wageningen University and Research, Wageningen, Gelderland, The Netherlands</p> <p>Using Spot-Sample Breath Measurements of Methane Emissions from Dairy Cattle for Genetic Evaluations</p>
4:35 PM	<p>Juan Vargas University of Florida/IFAS, North Florida Research and Education Center, Marianna, Florida, USA</p> <p>Non-protein Nitrogen Supplementation on In Vitro Fermentation and Methane Production in a Corn Silage-based Diet</p>	<p>Scott Zimmerman C-Lock Inc, Rapid City, South Dakota, USA</p> <p>The Between Animal Variance in CH₄, CO₂ and CH₄/CO₂ Concentration Ratio Measured in Farm Conditions</p>
4:50 PM	Discussion Period	Discussion Period
5:00 PM - 8:00 PM	WELCOME RECEPTION & FORMAL POSTER SESSION	

Tuesday, June 7, 2022	
7:30 AM - 5:30 PM	Conference Registration Opens
7:30 AM - 8:30 AM	Morning Refreshments in Poster & Sponsor Display Hall
8:30 AM - 10:00 AM	PLENARY SESSION [PALM B-D]
8:30 AM - 8:40 AM	MODERATOR: Dr. Darren Henry , GGAA Co-Chair, and Assistant Professor, Department of Animal and Dairy Science, University of Georgia - Tifton, Tifton, Georgia USA
8:40 AM - 9:15 AM	KEYNOTE SPEAKER: Dr. Pekka Huhtanen , Professor, Swedish University of Agricultural Sciences, Visiting Professor, Natural Resource Institute Finland, Finland — <i>Contribution of Methane to Variation in Feed Efficiency of Dairy Cows</i>
9:15 AM - 9:50 AM	KEYNOTE SPEAKER: Dr. Jan Dijkstra , Associate Professor in Ruminant Nutrition, Wageningen University Animal Nutrition Group, Wageningen, Netherlands — <i>Modeling and GHGs: Understanding and Quantifying the Relationship between Diet Quality or Dietary Additives and Enteric Methane Emissions of Dairy Cattle</i>
9:50 AM - 10:00 AM	Concluding Remarks
10:00 AM - 10:30 AM	Refreshment Break in Poster & Sponsor Display Hall

Tuesday, June 7, 2022 (continued)

CONCURRENT SESSIONS 7 & 8

10:30 AM - 12:00 PM	SESSION 7	SESSION 8
LOCATION	[PALM B-D]	Jasmine & Magnolia
SESSION	Enteric Methane Emissions: Modeling	Enteric Methane Mitigation: Supplements & Additives
MODERATOR	Dr. Ermias Kebreab, College of Agricultural and Environmental Sciences, University of California, Davis, California, USA	Dr. Tommy Boland, University College Dublin, Ireland
10:30 AM	Session Introduction & Overview	Session Introduction & Overview
10:35 AM	Alejandro Belanche CSIC / University of Zaragoza, Spain Developing Prediction Models of Enteric Methane Production in Sheep Using an Intercontinental Database	Maria Holst Kjeldsen Aarhus University, Tjele, Denmark Gas Exchanges and Dry Matter Intake When Lactating Dairy Cows are Fed 3-NOP and Fat
10:50 AM	Tony van der Weerden AgResearch, Mosgiel, Otago, New Zealand Models to Predict Ammonia and Nitrous Oxide Emission Factors for Land-applied Manure and Urine	Sanne van Gastelen Wageningen University & Research, Wageningen, Gelderland, The Netherlands Does Basal Diet Composition Impact the Methane Mitigation Potential of 3-Nitrooxypropanol in Dairy Cattle?
11:05 AM	Armando Rivera Université Libre de Bruxelles, Brussels, Belgium Using Partial Life Cycle Assessment to Enhance National Climate Actions to Reduce Methane from Livestock Systems	Padmakumar Varijakshapanicker Feed the Future Innovation Lab for Livestock Systems, Gainesville, Florida, USA Feed-focused Strategies to Mitigate Greenhouse Gas Emissions in Livestock Systems in Developing Countries
11:20 AM	Enyew Negussie Natural Resources Institute Finland, Jokioinen, Häme, Finland Longitudinal Modelling of Methane Emission in Dairy Cattle: Genetic Variation & Associations with Breeding Goal Traits	Angelica Carrazco University of California, Davis, California, USA Impact of a Tannin and Saponin Blend on Methane Emissions of Lactating Dairy Cows
11:35 AM	Habibou Assouma CIRAD, Montpellier, Occitanie, France How CH ₄ Emission Predictive Models Built in Experimental Conditions Can Help Assess CH ₄ Emissions from Sahelian Ruminants	Pedro Romero CSIC Granada, Granada Spain In Vivo Study of Combining <i>Asparagopsis taxiformis</i> and Phloroglucinol to Reduce Methane Production and Improve Rumen Fermentation Efficiency in Goats
11:50 AM	Discussion Period	Discussion Period
12:00 PM - 1:30 PM	BOXED LUNCH PROVIDED TO REGISTERED ATTENDEES	

Tuesday, June 7, 2022 (continued)

CONCURRENT SESSIONS 9 & 10

1:30 PM - 3:00 PM	SESSION 9	SESSION 10
LOCATION	[PALM B-D]	Jasmine & Magnolia
SESSION	Enteric Methane Mitigation through Animal Management	Enteric Methane Mitigation through Animal Genetics
MODERATOR	Dr. Maguy Eugene , INRAe French National Research Institute for Agriculture, Food and Environment, Auvergne Research Center, France	Dr. David Jaramillo , USDA-ARS, Marshfield, Wisconsin, USA
1:30 PM	Session Introduction & Overview	Session Introduction & Overview
1:35 PM	Isaac Aboagye University of Manitoba, Winnipeg, Manitoba, Canada Environmental Footprints of Conventional and Alternative Natural Productivity-Enhancing Technologies in Beef Production	Pablo Alvarez Hess Agriculture Victoria, Ellinbank, Victoria, Australia Methane Related Phenotypes and their Correlations with Production Phenotypes in Holstein Dairy Cows
1:50 PM	Bente Aspeholen Åby Norwegian University of Life Sciences, Ås Akershus, Norway Emission Intensities in Sheep Production Located in Various Geographical Regions of Norway	Suzanne Rowe AgResearch, Dunedin, Otago, New Zealand The Use of Combined Proxies for Genomic Selection for Low Methane in the New Zealand National Sheep Flock
2:05 PM	Melynda Hassouna INRAE, Rennes Ile et Vilaine, France How to Define the Quality of Measured Emissions Values?	Joni Van Mullem Flanders Research Institute for Agriculture, Fisheries and Food, Melle, East Flanders, Belgium Enteric Methane Emissions from Holstein Friesian Heifers
2:20 PM	Hollie Riddell Bangor University, Bangor Gwynedd, United Kingdom Improving Carbon Footprinting of Welsh/UK Lamb Production	Michiel Scholtz ARC-Animal Production, Irene, Gauteng, South Africa The Farm-gate Methane Footprint of Diverse Beef Cattle Genotypes in South Africa
2:35 PM	Muhammad Ibrahim CATIE Turrialba, Cartago, Costa Rica Herd Structure Management as a Strategy to Improve Productivity and Reduce Methane Emissions of Tropical Dairy Farms	Paul Smith Teagasc, Meath, Ireland The Identification of Rumen Microbial Biomarkers Associated with Residual Methane Emissions in Cattle
2:50 PM	Discussion Period	Discussion Period
3:00 PM - 3:30 PM	Refreshment Break in Poster & Sponsor Display Hall	

Tuesday, June 7, 2022 (continued)

CONCURRENT SESSIONS 11 & 12

3:30 PM - 5:00 PM	SESSION 11	SESSION 12
LOCATION	[PALM B-D]	Jasmine & Magnolia
SESSION	Enteric Methane Mitigation – Beef and Dairy Systems	Enteric Methane Mitigation – Small Ruminants
MODERATOR	Dr. Antonio Faciola , UF/IFAS Department of Animal Sciences, Gainesville, Florida, USA	Dr. Diwakar Vyas , University of Florida, Department of Animal Sciences, Gainesville, Florida, USA
3:30 PM	Session Introduction & Overview	Session Introduction & Overview
3:35 PM	Karla Fabiola Corral Jara INRAE French National Research Institute for Agriculture, Food and Environment, Auvergne Research Center, France Use of a Multi-Omic Approach for Identifying Rumen Microbiome Mechanisms in Cows Modulated by An Anti-Methanogenic Additive	Sarah Woodmartin Teagasc, Athenry, Galway, Ireland Dry Matter Intake and Methane Production from Sheep Offered Diets Differing by Sward Type
3:50 PM	Sergio Cueva Welchez Penn State, State College, Pennsylvania, USA Lactational Performance, Rumen Fermentation and Enteric Methane Emission of Dairy Cows Fed Amylase-Enabled Corn Silage	Edel O'Connor Teagasc, Athenry, Galway, Ireland The Effect of Life-stage on Methane Production in Sheep
4:05 PM	Stacey Gunter USDA, Agricultural Research Service, Woodward, Oklahoma, USA Six Macroalgae Harvested Along the California Coast and Their Ability to Mitigate Methane Emission by a Forage Diet	Vibeke Lind NIBIO, Tjøtta, Norway Micro- and Macroalgae Additives to Mitigate Enteric Methane Emissions from Norwegian Sheep
4:20 PM	Angela Schwarm Norwegian University of Life Sciences (NMBU), Aas, Viken, Norway Effect of Methane Category and Lactation Stage on Immune Response and Rumen Microbiome	W. S. Oualy Ouermi Centre National de la Recherche Scientifique et Technologique, Institut de l'Environnement et de Recherches Agricoles, Burkina Faso Enteric Methane Emissions from Djallonke Sheep Fed Diets with Increasing Levels of Metabolizable Energy
4:35 PM	Christian Børsting Aarhus University, Tjele, Jutland Denmark Carbon Footprint from Enteric Methane and Feed Production when Feeding Extreme Amounts of Concentrate	Diego Morgavi INRAE French National Research Institute for Agriculture, Food and Environment, Auvergne Research Center, France Conductive Materials Stimulate Ruminal Methanogenesis and Induce Microbial Changes Indicative of Improved Electron Transfer
4:50 PM	Discussion Period	Discussion Period

5:00 PM - 8:00 PM

FORMAL POSTER SESSION & NETWORKING RECEPTION

Optional Field Trip

<https://conference.ifas.ufl.edu/ggaa/optional-field-trips.html>

6:30 AM - 7:30 AM Morning Refreshments for Field Trip Attendees [PALM FOYER - Conference Center Lobby]

NOTE: Trip is subject to change, depending on potential COVID-19 restrictions in effect at that time. If the field trip cancel, registrants will receive a full refund.

Archbold Biological Station LTAR Site & Buck Island Ranch, Venus FL (Full)

In pursuit of sustainable food production, the U.S. Department of Agriculture (USDA) launched the Long-Term Agroecosystem (LTAR) network, comprised of 18 locations across the contiguous US. These sites work together to address national and local agricultural priorities and advance the sustainable intensification of U.S. agriculture. The Archbold Biological Station/University of Florida is one of these sites and is used to develop and assess sustainable agricultural production systems that integrate environmental and socio-economic needs from local, regional, to national scales. Co-located at this site is Buck Island Ranch, a 10,500 acre cattle ranch among the top-20 commercial cow-calf producers in Florida. Its herd is ~3,000 Brahman-cross cows bred to 150 Angus or Charolais bulls. Over 2,300 calves are raised annually and subsist mainly on grass in the summer but are supplemented with feed in the winter and free choice mineral year-round.

6:30am Morning Refreshments [Conference Center Lobby]
 7:30am Buses Depart Hotel
 10:00am–3:00pm Presentations, demonstrations, and a swamp buggy tour by Archbold Scientists
 12:00pm–1:00pm Break for Lunch and a Group Photo
 2:30pm–3:00pm Farewell and Board Buses for Return to Hotel
 6:00pm Arrive back at host hotel

During the Tour: Archbold scientists will give presentations and demonstrations sharing their latest research on ecosystem and cattle GHG emissions and measurements, including supplemental feed and enzymes research. We'll board a Swamp Buggy and tour several sites on the ranch where ecosystem GHG monitoring is being conducted. We will also get to see a typical Florida beef cow/calf production system in operation.

Tour Requirements: The weather will be hot and humid, and we will be outdoors. Wear cool, lightweight clothing and comfortable shoes. A hat and/or sunscreen is advised. Bottled water and lunch will be provided.

[This tour is full. Check in at the registration desk onsite at the conference to see if openings are available.]

Evening on Own

Thursday, June 9, 2022

7:30 AM - 5:30 PM	Conference Registration Open
7:30 AM - 8:30 AM	Morning Refreshments in Poster & Sponsor Display Hall
8:30 AM - 10:00 AM	PLENARY SESSION [PALM B-D]
8:30 AM - 8:40 AM	MODERATOR: Dr. Nicolas DiLorenzo , Conference Chair, Professor and Beef Cattle Specialist, UF/IFAS North Florida Research and Education Center and Department of Animal Sciences, Marianna, Florida, USA
8:40 AM - 9:15AM	KEYNOTE SPEAKER: Dr. Alan Rotz , Agricultural Engineer, USDA Agricultural Research Service, University Park, Pennsylvania, USA — <i>Life Cycle Greenhouse Gas Emissions from Beef and Dairy Production in the United States</i>
9:15 AM - 9:50 AM	KEYNOTE SPEAKER: Dr. Marta Alfaro , Researcher, Instituto de Investigaciones Agropecuarias (INIA), Santiago, Chile — <i>GHG Emissions Quantification in Grazing Systems and Development of Mitigation Options from Soils</i>
9:50 AM - 10:00 AM	Concluding Remarks
10:00 AM - 10:30 AM	Refreshment Break in Poster & Sponsor Display Hall

Thursday, June 9, 2022 (continued)

CONCURRENT SESSIONS 13 & 14

10:30 AM - 12:00 PM	SESSION 13	SESSION 14
LOCATION	[PALM B-D]	Jasmine & Magnolia
SESSION	Managing GHG Emissions in Soil Systems	Diet and Feed Additives for Enteric Methane Mitigation
MODERATOR	Dr. April Leytem, USDA-ARS, Kimberly, Idaho, USA	Dr. Darren Henry, University of Georgia, Tifton, Georgia
10:30 AM	Session Introduction & Overview	Session Introduction & Overview
10:35 AM	<p>M. Anowarul Islam University of Wyoming, Laramie, Wyoming, USA</p> <p>Grass-legume Mixtures and Nitrogen Fertilizers Can Affect Trace Gas Emission and Soil Microbial Biomass</p>	<p>Alexandre Budan Cargill Animal Nutrition West Europe, Yffiniac, France</p> <p>Potential of ZELP to Improve the Cargill Holistic Approach to Mitigate Enteric Methane Emission</p>
10:50 AM	<p>Gary Lanigan Teagasc, Wexford, Ireland</p> <p>Long-Term Carbon Balance in Managed Pasture Systems</p>	<p>Morten Maigaard Aarhus University, Foulum, Tjele, Denmark</p> <p>Combined Effects of Dietary Fat, Nitrate and 3-NOP on Dairy Cows' Enteric Methane Emission</p>
11:05 AM	<p>Jaime Garzon University of Florida, Ona, Florida, USA</p> <p>Nitrous Oxide Emissions of Overseeding Aeschynomene into Bahiagrass Pastures in Florida</p>	<p>Omar Cristobal-Carballo Agri-Food and Biosciences Institute, Hillsborough, Antrim, United Kingdom</p> <p>Effect of Microalgae Oil Supplementation on Feed Intake, Growth and Methane Emissions of Finishing Lambs</p>
11:20 AM	<p>Karl Richards Teagasc, Wexford, Ireland</p> <p>Switching to Ammonium Based Fertiliser Can Reduce N₂O Emissions from Wet Grassland Soils</p>	<p>Derek Wasson The Pennsylvania State University, University Park, Pennsylvania, USA</p> <p>The Macroalga <i>Asparagopsis taxiformis</i> Decreases Dry Matter Intake and Milk Production in Dairy Cows</p>
11:35 AM	<p>Jean Baptiste Dollé French Livestock Institute, Saint Laurent Blangy, France</p> <p>CARBON AGRI, a Result-based Carbon Farming Scheme for Boosting Carbon Initiatives in Mixed Crops-livestock Sector</p>	<p>Kenneth Kalscheur USDA, Agricultural Research Service, Madison, Wisconsin, USA</p> <p>Effect of Six Macroalgal Species on In Vitro Methane Production in a Lactating Dairy Cow Diet</p>
11:50 AM	Discussion Period	Discussion Period
12:00 PM - 1:30 PM	Lunch on Own - NO LUNCH IS BEING PROVIDED	

Thursday, June 9, 2022 (continued)

CONCURRENT SESSIONS 15 & 16

1:30 PM - 3:00 PM	SESSION 15	SESSION 16
LOCATION	[PALM B-D]	Jasmine & Magnolia
SESSION	Enhanced Monitoring, Prediction, and Emissions Factors for Enteric Methane	GHG Mitigation with the Use of Feed Additives
MODERATOR	Dr. Sharon Huws, Queen's University, Belfast, Ireland	Dr. Juan Tricarico, DMI, Rosemont, Illinois, USA
1:30 PM	Session Introduction & Overview	Session Introduction & Overview
1:35 PM	<p>Nigel Tomkins SeaForest Ltd Triabunna, Tasmania, Australia</p> <p>Managing Enteric Emissions from Grazing Systems Using Leucaena</p>	<p>Richard Williams Agriculture Victoria Research, Warragul, Victoria, Australia</p> <p>Feeding MYLO to Dairy Cows Reduces Methane Yield and Increases Milk Production</p>
1:50 PM	<p>Giovanni Lazzari Agroscope, Posieux, FR, Switzerland</p> <p>Comparing the Greenfeed System with the Tracer Ratio Method Using Sainfoin as Methane Mitigation Model</p>	<p>Holly Heil University of Nebraska- Lincoln, Lincoln, Nebraska, USA</p> <p>Effects of Feeding Biochar to Finishing Beef Cattle on Enteric Methane Production</p>
2:05 PM	<p>Nagaraju Indugu University of Pennsylvania, Kennett Square, Pennsylvania, USA</p> <p>Fecal Archaeal Diversity in Holstein Dairy Calves from Birth through Weaning</p>	<p>Mallory Honan University of California, Davis, California, USA</p> <p>Evaluation of <i>Cymbopogon winterianus</i> (lemongrass) for its Potential to Mitigate Enteric Methane Emissions</p>
2:20 PM	<p>Tuan Poy Tee Universiti Putra Malaysia, Institute of Tropical Agriculture, Serdang, Selangor, Malaysia</p> <p>Prediction of Enteric Methane Emission in Southeast Asia Beef Cattle Using an International Database</p>	<p>David Yanez-Ruiz CSIC, Granada, Spain</p> <p>In vitro Rumen Microbial Degradation of Bromoform and the Impact on Rumen Fermentation</p>
2:35 PM	<p>Jacobo Arango Alliance Bioversity International and CIAT (ABC), Palmira, Colombia</p> <p>Climate Impact of Improved Genetic Resources from a Novel Beef Production System in the Colombian Orinoquia</p>	<p>David Kenny Teagasc, Trim, County Mayo, Ireland</p> <p>Effect of Feeding <i>Ascophyllum nodosum</i>, a Novel Brown Seaweed Extract, and Soya Oil on Daily Dry Matter Intake and Enteric Methane Emissions in Ewes</p>
2:50 PM	Discussion Period	Discussion Period
3:00 PM - 3:30 PM	Refreshment Break in Poster & Sponsor Display Hall	
3:30pm - 5:30pm	Sponsors to Move-out Displays immediately following the break. Materials must be removed by 5:30PM before departure to SeaWorld.	

Thursday, June 9, 2022 (continued)

3:30 PM - 5:00 PM Closing Plenary Session [PALM B-D]

MODERATOR Dr. Nicolas DiLorenzo, Conference Chair, Professor and Beef Cattle Specialist, UF/IFAS North Florida Research and Education Center and Department of Animal Sciences, Marianna, Florida, USA

3:40 PM - 4:15 PM **KEYNOTE SPEAKER:**
Dr. Claudia Arndt, Senior Scientist & Co-Team Leader, Mazingira Centre at International Livestock Research Institute (ILRI), Nairobi Kenya — *The State of Knowledge and Policy Efforts to Improve Inventory Estimates and Mitigate Livestock GHG Emissions in Africa*

4:15 PM - 4:50 PM **KEYNOTE SPEAKER:**
Dr. Barbara Amon, Research Programme Coordinator at ATB and Professor for Environmental Engineering and Agricultural Engineering at University of Zielona Góra, Berlin/Brandenburg, Germany — *Precision Farming in Livestock Production*

4:50 PM - 5:00 PM **Concluding Remarks**

Closing Dinner Banquet at Sea World of Florida
 (Be sure to purchase a ticket in advance for this optional event when registering.)

5:45 PM **Board Busses for Optional Dinner Banquet at SeaWorld**
 [Conference Center Lobby Entrance]

6:00 PM **Busses Depart Promptly for SeaWorld**
 [Don't miss the bus. Alternate transportation and late entrance to SeaWorld is not possible.]

6:15 PM - 7:30 PM **Reception at SeaWorld Lakeside Patio**
 (Complimentary beer, wine & softdrinks are available throughout the reception and dinner.)

7:30 PM - 9:30 PM **Private Group Dinner in Sharks Underwater Grill**
 (Select your preferred entrée when registering.)



10:00 PM **Group Returns to Host Hotel - GGAA 2022 CONCLUDES**