



OPTIONAL Pre-Conference Workshop:

SF₆ Techniques

Sunday, June 5, 2022 | 1:30PM – 4:30PM | Orlando, Florida, USA

\$50 USD (*Space is limited. Advance registration is required.*)

www.conference.ifas.ufl.edu/GGAA

Join us for this informative workshop on SF₆, a measurement technique that uses an inert tracer gas (Sulfur hexafluoride - SF₆) to determine methane emission rates from ruminants under production conditions. This relatively inexpensive method is advantageous because measurements can be made at the individual animal level throughout any production system (i.e., grazing to feedlot). If you are routinely tasked with having to measure and monitor methane emissions, this technique is an affordable method. *Due to the hands-on nature of this session, you must attend in person to participate.*

The first segment of the workshop entails lectures covering the essentials and history of the SF₆ technique, including SF₆ Gas Handling and Tracking, SF₆ Measuring and Monitoring Techniques. Following these lectures, attendees will rotate through three specialized stations to receive more in-depth instruction and explanation.

Hands-on demonstration stations include:

1. Gas chromatography
2. Permeation tubes
3. Collection devices

The workshop will conclude with an interactive discussion allowing ample time for questions and answers.

By attending this workshop, you will learn:

- How the SF₆ measurement technique determines the rate at which cattle release methane using a tracer technique.
- How a permeation device that releases SF₆ at a known rate is placed in a cow's rumen.
- The basics of fitting an animal with a halter and sampling system to collect ambient air over an extended period.
- How to analyze air samples for methane and SF₆ and calculate the overall methane emission rate.

Workshop Instructors:

Dr. Nicolas DiLorenzo, Professor, University of Florida/IFAS North Florida Research and Education Center



Dr. DiLorenzo received his degree in Agricultural Engineering from the Universidad Nacional de La Plata, Argentina, in 2002. He moved to the U.S. in 2002 to pursue graduate studies at the University of Minnesota, where he obtained his master's degree in 2004 and his PhD in 2008, both in Animal Science with emphasis in beef cattle nutrition. From 2008 to 2010 Dr. DiLorenzo worked as a postdoctoral Research Associate at Texas Tech University in Lubbock, TX, conducting research in feedlot nutrition and management. In 2010 he joined the University of Florida as an Assistant Professor in Animal Sciences at the North Florida Research and Education Center in Marianna. His primary research and extension interests are in beef cattle nutrition, with the objective of improving the efficiency of use of forages minimizing the environmental impact. His research focuses on ruminal metabolism and fermentation, emissions of greenhouse gases, and nutrient excretion in cattle systems.

Dr. Darren Henry, Assistant Professor, Dept. of Animal and Dairy Science, University of Georgia – Tifton



Dr. Henry was raised in Porter, TX where he was involved with his family's cow-calf operation, 4-H, and FFA. After graduating from New Caney High School, Darren moved to College Station, Texas to obtain a BS from Texas A&M University in both Animal Science and Agricultural Leadership and Development. After completing his time in College Station, Darren moved to Marianna, Florida where he earned both his MS and PhD in Animal Sciences from the University of Florida while living and working at the North Florida Research and Education Center. Darren previously managed the Sustainable Ruminant Nutrition Laboratory at Texas Tech University, and recently joined the faculty at the University of Georgia, Animal and Dairy Science Department where his research focuses on sustainable beef cattle nutrition, ruminal fermentation, enteric and excreta greenhouse gas emissions, and systemic advances in animal agriculture.

Questions about participating in this workshop? Email Dr. Darren Henry at: darrenhenry@uga.edu