

Dairy Environmental Systems and Climate Adaptation Conference and Tours



**CORNELL UNIVERSITY
STATLER HOTEL
ITHACA, NEW YORK**



JULY 29-31, 2015

- CORNELL PRO-DAIRY DAIRY ENVIRONMENTAL SYSTEMS GROUP
www.manuremanagement.cornell.edu
- CORNELL INSTITUTE FOR CLIMATE CHANGE AND AGRICULTURE
<http://cuaes.cornell.edu/cals/cuaes/sustainability/cicca.cfm>
- ANIMAL AGRICULTURE AND CLIMATE CHANGE PROJECT (USDA-NIFA)
<http://animalagclimatechange.org/>
- SUSTAINABLE DAIRY CAP PROJECT
<http://www.sustainabledairy.org/>
- NYSERDA
<http://www.nyserda.ny.gov/>

Dairy · Climate · Agriculture · Adaptation

This 2-day regional conference will feature a unique opportunity to learn about emerging dairy housing and manure management systems in conjunction with regional climate trends and national and international drivers, along with adaptation strategies for the Northeast and upper mid-west U.S., and to visit the beautiful Finger Lakes region of New York.

The conference will feature an optional day of tours featuring multiple options that showcase on-farm integrated waste handling/treatment systems and on-farm climate adaptation strategies.

The main goals are to equip attendees with state-of-the-art knowledge on manure handling systems and climate adaptation strategies, as well as to explore the intrinsic connection between climate trends for the Northeastern U.S., on-farm adaptation strategies, and related dairy environmental management issues.



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HIGHLIGHTED SPEAKERS



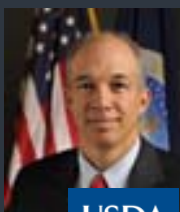
Hans Jöhr is the Corporate Head of Agriculture at Nestlé in Switzerland. As such, Mr. Jöhr is responsible for providing technical and strategic leadership in the groups' world-wide agricultural raw material supply chain. This includes the agricultural policy, the raw material quality control and R&D.

Active in all facets of agribusiness, and having grown up on a family farm, Mr. Jöhr has extensive experience based on several long-term international assignments, he is the author of more than 30 publications.

Mr. Jöhr will discuss the role of climate change with respect to global ag policy decision making, and will highlight the importance of planning for and adapting to, perceived changes in climate and their impact on ag facilities.

William Hohenstein serves

as the Director of the Climate Change Program Office (CCPO), and is responsible for coordinating climate change research and program activities for the Department. The Climate Change Program Office provides coordination and policy development support for the Department's climate change program. Mr. Hohenstein will be discussing producer-level climate change implementation strategies within USDA, and the future challenges to incorporating best adaptation practices.



Rob Koll the David R. Dunlop '59 Head Coach of Wrestling, has for 21 seasons served as the mentor of the Cornell wrestling program. Koll, himself a former NCAA champion, has led the Big Red program to unprecedented heights on the national stage. Under Koll's direction, the Big Red has captured 16 Ivy League titles,

crowned 12 national champions and achieved 56 All-Americans and 51 individual EIWA champions. The Big Red has had at least one individual NCAA champion in seven of the last eight years.

Koll and his wife, Rachel, live in Lansing and have two sons, William and Daniel. William will be wrestling for Cornell in the fall.



John Fiscalini and his family manage a world-class dairy farm and cheese-making facility, with cheese products known internationally. The Fiscalini Farm staff believe in the sustainability of agriculture and want future generations of Fiscalini's to continue to harvest and enrich the land. Their philosophy is "to produce high quality feed that the cows will consume and make into great milk. That great milk will then be made into the best cheeses in the world."

Frank Mitloehner is a Profes-

sor of Animal Science and a Cooperative Extension Specialist at the University of California-Davis specializing in agricultural air quality and sustainability.



Dr. Mitloehner has generated and published data that are rapidly changing how livestock facilities in California and throughout the U.S. are regulated. In addition to many other professionally held roles, he has served as the chair of the global Food and Agricultural Organization (FAO) project, Livestock Environmental Assessment and Performance Partnership.

His talk *Feeding a Growing Planet w/out Depleting the Planet's Natural Resources* will be on sustainable intensification of animal agriculture to satisfy human nutritional needs while protecting the environment.

FEATURED TOURS

Cayuga milk ingredients:

Farmer owned dairy company and processing facility

Shepherd's Way:

Largest sheep milking facility in the country

prodairy.cals.cornell.edu/dairy-climate-conference

Conference Schedule

Wednesday July 29, 2015

Time	Event/location		
8:00 AM	Poster Session 1 (Ballroom) and Light breakfast (Ballroom Foyer) Registration (Hotel Lobby)		
General Session 1 (Ballroom)			
9:30-9:45 AM	<i>Welcome Statement</i> Dean Kathryn J. Boor (CALs Dean)		
9:45-10:30 AM	<i>Northeast experiences with climate, weather and the dairy industry</i> Art DeGaetano (Cornell)		
10:30-11:15 AM	<i>Animal Agriculture in a Changing Climate - challenges in North America</i> Bill Hohenstein (Director, USDA Climate Change Program)		
11:15-11:30 AM	<i>Animal Agriculture and Climate Change: A National Approach</i> Rick Stowell (University of Nebraska)		
11:30 -1:00 PM	Lunch Buffet (Ballroom Foyer)		
12:15 PM	Guest speaker: Rob Koll - Cornell Men's Wrestling head coach (Ballroom)		
General Session 2 (Ballroom)			
1:00-1:45 PM	<i>Sustainable Intensification of Animal Agriculture to satisfy Human Nutritional Needs and Protect the Environment</i> Frank Mitlochner (University of California, Davis)		
1:45-2:15 PM	<i>Evaluating strategies for greenhouse gas mitigation and adaptation to climate change for a New York dairy farm</i> Al Rotz (USDA-ARS)		
2:15-2:45 PM	<i>Impacts of climate change on manure management</i> Peter Wright (NRCS)		
2:45-3:30 PM	Break (Ballroom Foyer) and Poster Session 1 (Ballroom)		
Breakout Session 1			
	<i>A. Basic Climate Science (Taylor)</i>	<i>B. Farmstead Greenhouse gases (Yale/Princeton)</i>	<i>C. Methods to Predict GHG emissions (Penn)</i>
3:30-4:00 PM	<i>Basic Climate Science</i> Pam Knox (U. of Georgia)	<i>ABC's of farm-based GHG</i> David Smith (TAMU)	<i>What are the best tools developed to predict GHGs</i> Wendy Powers (MI State) April Leytem (USDA)
4:00-4:30 PM	<i>Basic Climate Science II</i> Pam Knox (U. of Georgia)	<i>Potential Use of LCA to prioritize adaptation and mitigation strategies</i> Greg Thoma (U. of Arkansas)	<i>Panel on GHG prediction tools</i> Al Rotz (USDA-ARS) Daniella Malin (Cool Farm Alliance) Frank Mitlochner (UC Davis)
4:30-5:00 PM	<i>Forecast Needs for dairy systems under climate change</i> Stephen Jascourt (MDA Information Systems, LLC)	<i>Agricultural greenhouse gas quantification for dairy producers</i> Patrick Wood (Ag Methane Advisors)	
5:00-7:00 PM	Reception (Ballroom)		
Keynote Address: Hans Jöhr (Nestlé)			
7:00-8:00 PM	<i>International Issues with Agriculture and Climate Change</i> (Auditorium)		
8:00-8:30 PM	Ice cream social (Statler Atrium)		

Thursday July 30, 2015

Time	Event/location
7:00 AM	Poster Session 2 (Ballroom) and Light breakfast (Ballroom Foyer) Registration (Hotel Lobby)
7:15 AM	USDA Hub led Roundtable discussion (Taylor)
General Session 3 (Ballroom)	
8:00-8:30 AM	<i>Potential Impacts of climate change on the NE dairy industry</i> David Wolfe (Cornell)
8:30-9:00 AM	<i>Climate Change Impacts on Dairy</i> Larry Chase (Cornell)
9:00-10:15 AM	<i>Farmer Panel</i> John Fiscalini, Doug Young
10:15-10:45 AM	Break (Ballroom Foyer) and Poster Session 2 (Ballroom)
Breakout session 2	
	<i>A. NE climate change initiatives (Penn)</i>
	<i>B. Manure Management: Value added ventures (Taylor)</i>
	<i>C. GHG and biogas policy and regulation (Yale/Princeton)</i>
10:45-11:15 AM	<i>USDA Northeast Climate Hub: delivering science-based knowledge and practical information</i> Howard Skinner (USDA NE Hub)
11:15-11:45 AM	<i>Changing agricultural insurance needs</i> Jeremy Forrett (Farm Credit)
11:45-12:15 PM	<i>NYSERDA Climate Clearinghouse</i> Amanda Stevens (NYSERDA)
10:45-11:15 AM	<i>Does solar power fit into your farm's future?</i> Dick Peterson (NATC)
11:15-11:45 AM	<i>New Revenue for Digesters: The Renewable Fuel Standard and Low Carbon Fuel Standard</i> David McCollough (Sutherland)
11:45-12:15 PM	<i>Lifecycle and Economic Assessment for NYS dairy co-digestion</i> Joseph Usack (Cornell)
10:45-11:15 AM	<i>Biogas roadmap: Voluntary actions to reduce methane emissions and increase energy independence</i> Allison Costa (AgSTAR)
11:15-11:45 AM	<i>The current state of carbon credits and the carbon market</i> Jim Jensen (WSU)
11:45-12:15 PM	<i>Agricultural greenhouse gas quantification in the NE</i> Patrick Wood (Ag Methane Advisors)
12:15-1:30 PM	Lunch (Ballroom)
12:45 PM	<i>Lunch Speaker: Cornell Institute of Climate Change and Agriculture</i> Mike Hoffmann (Cornell)
1:00 PM	Audience response: Did you know? Ag and climate change facts
Breakout session 3	
	<i>A. Climate adaptation strategies and innovations (Taylor)</i>
	<i>B. Producer-specific heat stress issues (Yale/Princeton)</i>
	<i>C. Farmstead GHG mitigation (Penn)</i>
1:30-2:00 PM	<i>Tools and Technologies to Assess Heat Stress on Commercial Dairies</i> Todd Bilby (Merck Animal Health)
2:00-2:30 PM	<i>Production and physiological responses of heat-stressed lactating dairy cattle to conductive cooling</i> Kristen Perano (Cornell)
2:30-3:00 PM	<i>Cow of the Future</i> Juan Tricarico (DMI)
1:30-2:00 PM	<i>Heat Stress impacts to breeding and genetics</i> Julio Giordano (Cornell)
2:00-2:30 PM	<i>Heat stress abatement techniques</i> Dan McFarland (PSU)
2:30-3:00 PM	<i>Using the CNCPS to formulate diets containing forages resulting from harsher climatic conditions</i> Mariann Fessenden (AMTS)
1:30-2:00 PM	<i>New York dairy manure management greenhosue gas emissions and mitigation costs</i> Jeni Wightman (Cornell)
2:00-2:30 PM	<i>Herd Management Strategies to reduce methane emissions in dairy cattle</i> Larry Chase (Cornell)
2:30-3:00 PM	<i>Carbon Sequestration potential of grazed pasture depends on prior management history</i> Howard Skinner (USDA-ARS)
3:00-3:30 PM	Break (Ballroom Foyer) and Poster Session 2 (Ballroom)

Thursday July 30, 2015 (continued)

Breakout Session 4			
	<i>A. Communication, Extension, Education and climate change (Taylor)</i>	<i>B. Growing feed for livestock in a changing climate (Yale/Princeton)</i>	<i>C. Manure Management (Penn)</i>
3:30-4:00 PM	<i>Addressing Controversial Issues in Extension Teaching Andrea Lorek-Strauss (U. of Minnesota Ext.)</i>		<i>Advanced Manure Treatment Jim Wallace (McLanahan)</i>
4:00-4:30 PM	<i>How to communicate your audience isn't listening Extension panel x3 people, 10 mins/pp 30 mins discussion Beth Meyer (ADADC) moderating</i>	<i>Development of Seasonal Forecast Tools Toby Ault (Cornell)</i>	<i>GHG emissions from injected vs. surface applied dairy liquid manure in Alfalfa and grassland Amir Sadeghpour (Cornell)</i>
4:30-5:00 PM	<i>Allison Chatrchyan (Cornell) John Jemison (Umaine)</i>	<i>Adapt N: A computational tool for precise nitrogen recommendations that incorporate weather data Harold Van Es (Cornell)</i>	<i>Gypsum Bedding Impact on H2S release from dairy manure storage Eileen Fabian-Wheeler (PSU)</i>

5:00 PM Adjourn. Dinner on your own

Friday, July 31, 2015

Time	Event/location
7:00 AM	Tour 1: General Ag departs from Statler Hotel
7:00 AM	Tour 2: Dairy Focus departs from Statler Hotel
9:00 AM	Tour 3: Wine, Cheese and Climate Change departs from Statler Hotel

Dairy Environmental Systems and Climate Adaptations Tours

Friday, July 31, 2015.

There are descriptions for the 3 tour options on the following pages. Tour stops and agendas are still being finalized and are subject to change.

Tour option 1. General Ag tour (\$90)

Board bus and depart from Statler Hotel at 7 AM; arrive back at Statler Hotel at 5:30 PM. Snacks and drinks on bus, and lunch at winery are included in this tour fee.

1. Shepherd's way

David and Sally Galton, the owners of Shepherd's Way recently decided to venture into the world of artisanal sheep's milk products. Shepherd's Way, now located in Locke, NY, is continually growing and strives to produce the highest quality sheep's milk cheeses and yogurts.

2. Local crop farm

This is a 3,000 acre family-run cropping farm that primarily grows corn and soybeans (50/50), and focuses on optimizing operations through precision ag research ventures. Data is collected on many facets of the cropping operation, including weather, soil conditions, yield mapping, and more.

3. Cayuga Milk Ingredients

Welcome to Cayuga Milk Ingredients, where we are committed to quality nutrition for a better life! Cayuga Milk Ingredients was born from the vision of a small group of farmers in Central New York. We are 100% owned by this group of passionate farmers who are committed to producing the highest quality milk. Equally devoted to animal welfare and environmental stewardship, our farmers are thoughtful industry leaders dedicated to excellence.

4. Vineyard - Lunch

Eat lunch and listen to a talk on how climate change is affecting grape growing and wine making in the Fingerlakes Region.

5. Dairy farm and EnviTec anaerobic digester

Dairy farm and co-digesting anaerobic digester tour.

Tour option 2. Dairy focus tour (\$90)

Board bus and depart from Statler Hotel at 7 AM; arrive back at Statler Hotel at 3:00 PM. Boxed lunch is included in this tour fee.

1. Dairy Farm

This dairy currently milks 600 cows and crops 1,000 acres of hay and corn for feed. The farm produces and sells high-quality compost and mulch products from the dairy manure. The farm also uses a covered manure storage to capture greenhouse gases emitted by the stored manure.

2. Shepherd's way

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Tour option 3. Wine, cheese and climate change tour (\$95)

Board bus and depart from Statler Hotel at 9 AM; arrive back at Statler Hotel at 3:30 PM. Lunch at the winery is included in this tour fee. Please have a small amount of cash (\$10) with you to pay for tasting fees, this is NOT covered in the tour fee.

1. Goat Dairy

This is one of the longest operating commercial goat dairies in the country, beginning production in New York State in 1982 and pioneering goat cheese in the American marketplace. The owners work to continue the mission of bringing to the Finger Lakes region healthy, sustainable and delicious goat cheese.

2. Vineyard and discussion

Taste some award-winning wines and hear an extension specialist discuss how climate change affects grape-growing in the fingerlakes region. Lunch provided on-site.

3. Winery and discussion

This is a six-generation vineyard, producing award-winning wines in the heart of the fingerlakes.

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July 29-31, 2015
Cornell University
Statler Hotel Ithaca, NY

Pre-Registration

Early registration deadline **May 25, 2015**

	Early bird	Standard
General	\$275	\$350

To register online by credit card payment:

Please visit: prodairy.cals.cornell.edu/conferences and select the *Dairy Environmental Systems and Climate Adaptation Conference*. We are encouraging early registration by offering a discount. This event will *not* be offering on-site registration. Each person registering must use their own separate email address – members of the same company or farm may not register online using the same email address.

To register by mail with check payment:

To pay by check, complete the registration form on the following page (one form per person). Return with check (made out to Cornell University) to:

Dairy and Climate Conference
272 Morrison Hall, Ithaca, NY 14853.

Refund Policy

A full refund of the registration fee paid will be given if notification is provided 30 days or more prior to the first day of the conference. Cancellations less than 30 days before the conference starts will receive a refund at conference staff discretion. Refunds will not be given to participants who register for the conference but do not attend. Refunds will be returned according to original payment method

and process, minus a processing fee of \$20. Substitutions of attendees are permitted but must be approved by the conference coordinator.

Accommodations

The conference will be hosted at the Statler Hotel, where there is a block of rooms reserved for guests (limited availability).

Cornell University Statler Hotel

130 Statler Drive Ithaca, NY 14853-6901
(607) 257-2500
<http://www.statlerhotel.cornell.edu/>

Conference rate: \$186/night

Group Name: Dairy Environmental Systems and Climate conference

Deadline: June 28th 2015

Alternate accommodations

Blocks of rooms have also been reserved at a discounted rate at the following hotel facilities in Ithaca, NY:

Best Western University Inn

Rate: \$129

1020 Ellis Hollow Road Ithaca, NY 14850
(607) 272-6100

Hampton Inn

Rate: \$169

337 Elmira Rd. Ithaca, NY 14850
(607) 277-5500 or (800) HAMPTON

Hotel Ithaca

Rate: \$159

222 South Cayuga St. Ithaca, NY 14850
(607) 272-1000

<http://prodairy.cals.cornell.edu/conferences>

Parking

Parking is provided for conference attendees and Statler hotel guests. If you are a conference attendee NOT staying at the Statler Hotel, you will need to stop at the information booth (165 Hoy Road) the day of the conference to pick up a daily pass and then proceed to park in the Hoy road garage. The conference facility is a short (<5 minute) walk from the parking garage, and campus maps can be obtained at the info booth.

Questions?

Please contact Jenny Pronto at biogas@cornell.edu or (607) 227-7943.

Dairy Environmental Systems and Climate Adaptation Conference and Tours



JULY 29-31, 2015 ITHACA, NY

REGISTRATION FORM

Early Bird Registration Deadline: May 25, 2015

All registration fees are per person. One person per registration form.

ATTENDEE INFORMATION

Please enter information as you would like to have it appear on your conference name badge.

Name: _____ Organization: _____

Business address: _____

City: _____ State: _____ ZIP Code: _____ Country: _____

Phone: _____ E-mail: _____ CC Email: _____

The email address entered above should be the one used by the individual being registered. If you are completing this form on behalf of the registrant and would like to be copied on the confirmation email, please enter your email address in the CC email field.

Special dietary requirements: _____

Please answer the following questions in an effort to help gauge our outreach effort:

If you are a dairy producer or calf/heifer raiser: Total number of cows (milking and dry): _____ Total number of heifers: _____
How many members of your farm, including yourself, are attending this event? _____

If you are an agri-service professional: Approximately how many milk cows are represented by the customers you serve? _____

Other attendees, select your affiliation: Extension agent University Government Other: _____

SESSION SELECTION

Please choose which sessions you are most likely to attend at the conference

Breakout Session 1 (July 29, 3:45pm – 5:15pm)	<input type="checkbox"/> Basic climate science	<input type="checkbox"/> Farmstead greenhouse gases	<input type="checkbox"/> Methods to predict greenhouse gas emissions (panel)
Breakout Session 2 (July 30, 10:45am – 12:15pm)	<input type="checkbox"/> Northeast climate change initiatives	<input type="checkbox"/> Manure management – value added ventures	<input type="checkbox"/> Greenhouse gas and biogas policy and regulation
Breakout Session 3 (July 30, 1:30pm – 3:00pm)	<input type="checkbox"/> Climate adaptation strategies and innovations	<input type="checkbox"/> Producer-specific heat stress issues	<input type="checkbox"/> Farmstead greenhouse gas mitigation
Breakout Session 4 (July 30, 3:30pm – 5:00pm)	<input type="checkbox"/> Communication, extension, education and climate change	<input type="checkbox"/> Growing feed for livestock in a changing climate	<input type="checkbox"/> Manure management
Keynote Address (July 29, 7:00pm – 8:00pm)	<input type="checkbox"/> Yes, I plan to attend <input type="checkbox"/> No, I DO NOT plan to attend		

We are preparing a family program for attendees traveling with children or families. Are you interested in receiving information about special events/tours for families and kids? Yes, please send me details!

We have multiple tour options available to choose from, please see page 8 in the registration brochure for specific details on each tour. **Tour fees are in addition to the registration cost.** Below, please indicate which tour you plan to attend:

General agricultural tour (\$90) Dairy focused tour (\$90) Wine, cheese and climate discussion tour (\$95)

REGISTRATION PAYMENT

Please select the appropriate fee below:

	Early (before May 25)	Standard (after May 25)
General Registration	\$ 275 <input type="checkbox"/>	\$ 350 <input type="checkbox"/>

Will you need on-site parking for the conference? Yes No

\$ _____ Amount enclosed

Check (payable to Cornell University) Check number: _____

Please send form and payment to:
Cornell University Dairy Management
Attn: Dairy & Climate Conference
272 Morrison Hall
Ithaca, NY 14853

Register online at <http://pro dairy.cals.cornell.edu/dairy-climate-conference>