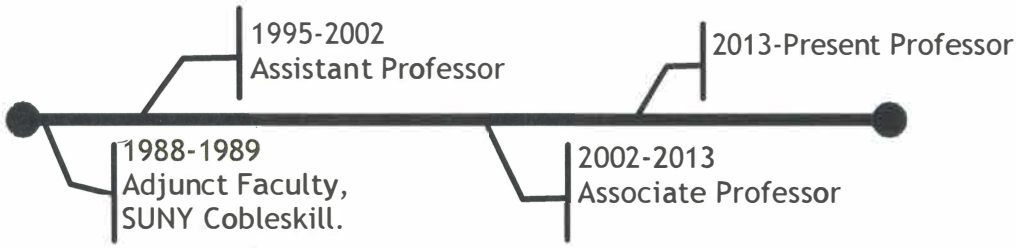
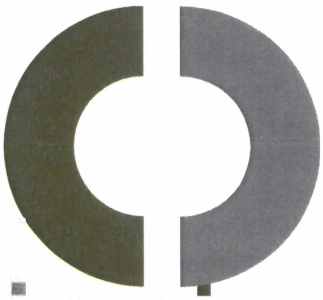
MICHAEL E. VAN AMBURGH
Professor, Stephen H. Weiss Presidential Fellow
Animal Science, Cornell University

Ruminant Nutrition | Feed Chemistry | Dairy Management | Modeling | Applied Growth Biology | Nutritional Physiology

ACADEMIC RANKS



APPT ALLOCATION



PROFESSIONAL OVERVIEW AND PROGRAM OBJECTIVES ACADEMIC RESPONSIBILITIES

RESEARCH RESPONSIBILITIES

OTHER CURRENT PROFESSIONAL ACTIVITIES

OTHER CURRENT PROFESSIONAL CONTRIBUTIONS SPEAKING ENGAGEMENTS & MEDIA

RESEARCH PUBLICATIONS EXTENSION/OUTREACH RESPONSIBILITIES

MICHAEL E. VAN AMBURGH
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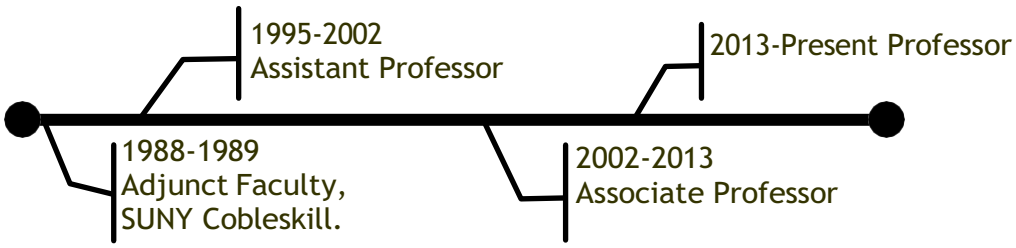
AREAS OF EXPERTISE

Ruminant Nutrition | Feed Chemistry | Dairy Management | Modeling | Applied Growth Biology | Nutritional Physiology

ACADEMIC RANKS



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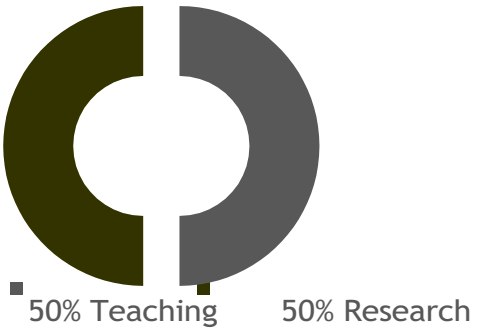

PROFESSIONAL OVERVIEW AND PROGRAM OBJECTIVES

Research efforts in my laboratory are multifaceted but focused on several aspects of productive efficiency of dairy cattle. With increasing pressure on the dairy industry to reduce the environmental impact of cattle, my research group is working on developing a basic understanding of whole animal nitrogen metabolism and supply and efficiency of use of absorbed amino acids. We have embarked on several studies employing stable isotopes of nitrogen compounds to understand urea nitrogen recycling and the fate of intake nitrogen. This work is leading to new dietary strategies that allow nutritionists to reduce the amount of nitrogen (crude protein) fed to lactating cows while maintaining milk production thus improving the efficiency of use of absorbed feed nitrogen and reducing the amount of manure nitrogen excreted into the environment per unit of milk produced. Data from studies are being used to further develop the Cornell Net Carbohydrate and Protein System (CNCPS).

In addition, my group is furthering this work with new studies examining the role of specific amino acid limitations under conditions of marginal metabolizable protein supply. We have developed the CNCPS to be very accurate at predicting the absolute amount of intake nitrogen required to produce high volumes of energy corrected milk and enhance milk component output through improved amino acid requirements and supplies. This has allowed us to feed diets as low as 14% crude protein and maintain high levels of milk production. This is a good model to evaluate limiting amino acids, since the cows are sensitive to specific amino acid supply at the lower protein intake levels. This has direct effects on the overall efficiency of the animal and how absorbed amino acids are utilized with the goal of further enhancing the efficiency of use of protein by the lactating dairy cow.

In support of the CNCPS and enhancing productive efficiency in lactating dairy cattle, we are also developing new tools to describe how NDF digestion occurs in forages. The goal is to better describe the rate and extent of NDF digestion for use in the model with the objective of linking this to dry matter intake and whole farm forage allocation to reduce the importation of non-farm raised feeds, thus reducing the importation of nutrients such as phosphorous and nitrogen. We have developed a model that describes the rate of digestion of two NDF pools and further describes the size of the respective pools that will be used to enhance feed intake models based on physical fill effects.

Finally, the lab has a 20-year history of engaging in research to enhance our understanding of the nutrient requirements and management of calves and heifers. Previous work identified time and not nutrient intake as the primary factor influencing pre-pubertal mammary development as measured by DNA accretion. This finding has significant implications because thirty years of research into this very perplexing and controversial issue never identified any mechanism for the decreased development and this observation allows us to redirect our efforts to factors that can be manipulated and have a larger impact on future milk potential. To that point, recent work has strongly demonstrated that nutrient intake and growth rates prior to weaning have a developmental or epigenetic effect on the animal, which results in greater milk yield in the first and subsequent lactations. Further, in collaboration with colleagues, we were able to demonstrate that growth rate of the calves prior to weaning and nutrient intake from milk replacer above maintenance accounted for up to 22% of the variation in first lactation milk production. This is a significant finding and one that provides us with a new research direction with profound implications for early life management of calves and heifers. This has led us to the concept that through the supply of specific components from colostrum and nutrients from milk or milk replacer prior to weaning that we can "program" a calf to be a more productive cow.

Within the department, my research program contributes to both Food Animal Production Systems and Integrative Animal Biology.

HONORS AND AWARDS:

2018: American Dairy Science Association, Most-Cited Paper Award in the Nutrition, Feeding and Calves section of the Journal of Dairy Science

2016: Stephen H. Weiss Presidential Fellow Award, Cornell University. A permanent award recognizing excellence in teaching.

2016: North American Colleges and Teachers of Agriculture and Cornell University College of Agriculture and Life Sciences Teacher of Merit Award

2016: North American Intercollegiate Dairy Challenge Founders Award for Extraordinary Contributions 2012: Donald

C. Burgett Distinguished Advisor Award, College of Agriculture and Life Sciences, Cornell University

2010: Land O'Lakes Purina Feed LLC Teaching Award for Dairy Production, American Dairy Science Association.

2010: American Feed Industry Association Award for Dairy Nutrition Research, American Dairy Science Association.

2008: Professor of Merit: For Outstanding Teaching and Advising, College of Agriculture and Life Sciences, Cornell University

2007: Cornell University, College of Agriculture and Life Sciences, Team Extension Award – Cornell Net Carbohydrate and Protein System Team

2004: American Dairy Science Association Foundation, Foundation Scholar Award for Outstanding Research and Teaching, American Dairy Science Association

2002: Young Scientist Award, NE Section, American Society of Animal Science and American Dairy Science Association

1998: American Dairy Science Association Outstanding Student Affiliate Advisor Award 1994:

Carl S. Akey (BASF) Nutrition Scholarship

1993: Hoerscht-Celenese Award of Excellence 1992:

Hoerscht-Celenese Award of Excellence

SABBATICALS AND STUDY LEAVES: None

ACADEMIC RESPONSIBILITIES

CURRENT ADMINISTRATIVE RESPONSIBILITIES:

Supervise Nicole McGuire, and Kelly Smith. And although not officially administrative by college or university, I spend a great deal of time administering and leading the Cornell Net Carbohydrate and Protein System team. This has both administrative (sales and licensing) and research demands. My primary responsibilities are to further develop the underlying functionality of the software through enhanced mathematical descriptions of the behavior of the rumen, ruminal metabolism and post-ruminal metabolism. The program as a licensed technology is used to formulate diets for approximately 70% of the dairy cattle in North America and is used in over 42 countries. Further work to develop the interface with the feed and nutrition industry professionals for training and support, and to help develop licensing arrangements through Cornell Research Foundation Technology Transfer Office are part of my responsibilities.

Administrative Leadership: Chair of the CURC Operations Committee

TEACHING AND ADVISING RESPONSIBILITIES:

Courses taught:

ANSC 1200. Contemporary Dairy Industry Topics and Issues. Lead instructor and coordinator. 2017-2024. 1 credit course. 60% effort.

ANSC 1250 Study Trip to California Central Valley. Lead instructor 2008-current. Was a Dairy Club trip converted to a formal study trip in the last 6 years.

ANSC 4110. Applied Cattle Nutrition – Primary instructor, 1996- current 100% effort. 4 credit course.

ANSC 4120 Whole Farm Nutrient Management – co-instructor (2005 – 2010). 2 credit module – 2005-2009. 4 credit course 2010 – current. 50% effort.

ANSC 2500 Dairy Cattle – Co-taught course for 1 year (Fall 2012), lead instructor 5 years (2013-2017).

ANSC 2550 International Dairy Study Trip to Italy. 2 credit course. 100% effort every other year. Initiated as a course in 2008, prior to that was a club study trip. Initiated in 1995.

ANSC 3511 Junior Dairy Fellows Spring. 2011- 2023. 2 credit course. 100% effort. 2024 – 25% effort.

ANSC 3560 International Dairy Study Trip. 2 credit course. 100% effort every other year. Lead instructor from 1996 to 2018.

ANSC 4510 Dairy Herd Business Management – one of the capstone courses for the Dairy Fellows Program. Part of the teaching team responsible for farm evaluations and analyses, and follow-up (2000 – current). Instructor of record starting Fall, 2011 – 4 credit course. 70% effort.

ANSC 4560 Dairy Fellows – the second of the capstone courses for the Fellows program. Lead instructor responsible for experiential learning activities, farm analyses, field trips (2000 – 2012) 30% effort. 2 credit course. 2013- current 100% effort.

ANSC 3550 Dairy Cattle Nutrition – two to three lectures, 5% effort ANSC 3510

Dairy Cattle Management – two to three lectures, 5% effort

Vet Med. 6559 Applied Dairy Cattle Nutrition for Practitioners – two lectures. 2 credits. 5% effort

ANSC 4511 Quantitative Decision Making on Dairy Farms – lead instructor Fall 2008; co-instructor Fall 2010, 2011. 3 credit course. 20% effort 2013.

AN SC 1160. Animal Agriculture and Society - From Food to Medicine.
3 credit course. Developed and led course with colleage input and responsible for 45% of a team taught course, 2007, 2008, 2009.

Educational Innovations Developed:
Developed a student club trip in 1995 that has become an important part of our Dairy and Animal Science Program and an important study trip for a significant percentage of our undergraduate students in AnimalScience. The club trips are now courses, AnSc 2550 and 3560 and were designed as dairy study trips to European locations where dairy production, cheese making, international markets, international trade, quotas and other related topics have been discussed and learned. These trips are an extension of our experiential learning program in Dairy Fellows and the upper-level course has traveled to China as part of an exchange with China Agriculture University in Beijing. From 1996 to 2023, 1,140 students have participated in these international study trips.

Further, I worked with CALS Student Services office to develop an exchange program with the University of Parma, Italy (http://www.unipr.it/) and assisted in developing an exchange program with Harper Adams College in Shropshire, England

(http://www.harper-adams.ac.uk/).

Led the development of an exit survey for graduating seniors in the Department of Animal Science that was adopted by the College of Agriculture and Life Sciences for all departments. Further to gauge student interests and awareness about their choice of a major and the opportunities within the major, I initiated an incoming freshman survey and their expectations for their education and experience in the major. This was done as part of the college mandate to have some form of evaluation by which we can evaluate our curriculum and learning outcomes for the department.

Current Student Organization I Advise:
Cornell University Dairy Science Club: approximately 120 members, one of the largest undergraduate student clubs in CALS. (1995 – current)

Current Undergraduate Students Mentored in Independent Research:
Piper Kohlenberger

Current undergraduate student advisees (2024-2025):

Ainslie, Abbie	Hodge, Morgan	Wilbur, Sophia
Ainslie, Aidan	Johnson, Braeden	Wolfanger, Harley
Barley, Colt	Kersmanc, Evelyn	Wolff, Ciera
Barraclough, Taylor	King, Lauren	Zimmer, Isabella
Beck, Clara	King, Nathaniel	
Blakemore, Kendall	Koval, Jack	
Blesy, Brett	Kuiper, Tom	
Brown, Kendall	Leitzan, Jacob	
Bullard, Sydney	Martin, Brittany	
Campisi, Kate	McCarthy, Abigail	
Cutri, Brayden	McDonough, Lydia	
Donnan, Lily	Merrell, David	
Donnelly-Taylor, Kathryn	Michaud, Lincoln	
Feinman, Charles	Mills, Lilly	
Folts, Isaac	Musselman, Alexis	
Goldstein, Gillian	Patt, Kevin	
Graft, Adam	Porter, Landon	
Griswold, Sophie	Rejman, Molly	
Haynes, Charlie	Sheaffer, Elijah	
Hendrix, Elliot	Wilbur, Isabella	

Exchange students and research interns advised and mentored:
Alessandro Zontini, Spring 2011, on exchange from Parma, Italy Gianni di Tusa, Spring, 2011 on exchange from Parma, Italy Davide Santospirito, Spring 2011, on exchange from Parma, Italy Nila Eschavarria, 2011-2012 on exchange from Barcelona.
Hannah McIntyre, Fall 2011 on exchange from Lincoln University, NZ Hanna Nilsson, Fall/Spring 2011-2012 on exchange from Sweden Alexandra Francis, Fall/Spring 2011-2012 on exchange from Australia Paolo Tempini, Spring 2012 on exchange from Parma, Italy
Simone Leo, Spring 2012, on exchange from Parma, Italy Brigitte Ravera Fall 2012, on exchange from New Zealand Laura Keenan, 2013, Lincoln University, NZ
Carlo Rossi, 2013, University of Parma, Italy
Simona Alberti, 2013, on exchange from Parma, Italy Stephanie Williams, 2014, Lincoln University, NZ

Mariane Beline, 2015, Paulista State University (UNESP), Ilha Solteira, Brazil Armando Carnepa, 2015, University of Parma, Italy
Angela Guido, 2015, University of Parma, Italy Avril Helen, 2015, UCD, Dublin, Ireland
Elisa Pernetta, 2015, University of Parma, Italy
Giuseppe Tiso, 2015, University of Parma, Italy Elisa Calludrini, 2016, University of Parma, Italy Matteo Tonni, 2016, University of Parma, Italy Rachel White 2016, UCD, Dublin, Ireland Frances Evans, 2016-2017, Wales, UK
Rosario Pitino, 2017, University of Parma, Italy Anoar Jamai Masroure University of Parma, Italy Massimiliano Festuccia University of Parma, Italy
Christopher Heffernan, University College Dublin, Ireland Cesare Paolucci, University of Parma, Italy
Marta Pirola, University of Parma, Italy Daniele Zanrosso, University of Parma, Italy Francesco Cornetti, University of Parma, Italy Alessandro Franzoni, University of Parma, Italy Maria Giorgia Riva, University of Parma, Italy Marco Piacentini, University of Parma, Italy
Danese, Tommaso, University of Parma, Italy
Zanotti, Andrea, University of Parma, Italy
Vettori, Julio De Matos, University of Bologna, Italy

Other Relevant Teaching and Advising Activities, Accomplishments:
Chairperson of the Animal Science Curriculum Committee 2006-2014. I engaged the department in a curriculum review in 2007, which continued to 2013. This review resulted in the development of five new courses (1160, 3920, 3980, 4050, and 4700) and the restructuring of courses already in the course catalog (300, 301 renumbered to 2400 and 2410 to be part of the core curriculum in Animal Science and 6060).
Worked to refine learning goals, outcomes and developing learning assessments for the department as part of the university's reaccreditation program and continuing improvement in undergraduate teaching. The committee redefined the program pathways within the major, reassessed the needs of the teaching program and further re-defined the curriculum for the department as the faculty and resources are reallocated due to retirements and shifts in teaching and programmatic need.

2024-25. Organized an international study trip to Italy in January 2025. Animal Science 2550-2551-2552. Fifty-one students participated in the trip to Italy, which focused on the dairy industry and other agricultural industries throughout Lombardia, Reggio-Emilia, Veneto, Tuscany, and Lazio.

2024 Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Modesto, CA: Lainey Koval, Rebecca Combe, Lucas Walley, Danielle Herrick. First place finish.

2023 Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Saratoga, NY: Caroline Rafferty, Emily Starceski, Blake Wadsworth and Kevin Jess. First place finish.

2022-23. Organized two international study trips to Italy and Germany for January 2023. Dr. Overton lead the Germany trip and I lead the trip to Italy. Animal Science 2550 and 3560. Forty-seven students participated in the trip to Italy focused on the dairy industry and other agricultural industries throughout Lombardia, Reggio-Emilia, Veneto, Tuscany and Lazio. Thirty-seven students participated in the trip to Germany to study dairy production systems, milk processing and learn about German history and culture.

2022. Coached and advised 18 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by the Northeast Dairy Consortium and held in Lyons Falls, NY. Mixed team competitions with 15 colleges and universities represented.

2022. Organized and directed a study tour of agricultural production in the Central Valley of California from Bakersfield to San Francisco. Fifty-four students. The tour focused on dairy farms, cotton, feedlots, carrots, citrus, cheese and butter production, water management and land use.

2022. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Green Bay, WI: Elizabeth Maslyn, Cole Schaap, Bryce Windecker and Alexander Dawson. Second place finish.

2021. Coached and advised 17 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in November. Hosted by Northeast Dairy Consortium and held in Lyons Falls, NY. Mixed team competitions with 14 colleges and universities represented.

2020. Organized and directed two international study trips to Italy and China in January 2020. Animal Science 2550 and 3560. Forty-nine students participated in the trip to Italy focused on the dairy industry and other agriculturally related industries through Lombardia, Reggio-Emilia, Tuscany and Lazio. Thirty-seven students participated in the trip to China to study dairy production systems, milk processing, conduct dairy farm evaluations with students from China Agriculture University and learn about Chinese history and culture.

2019. Coached and advised 18 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in November. Hosted by Northeast Dairy Consortium and held in Rochester, NY. Mixed team competitions.

2019. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Tifton, GA: Benjamin Dye, Nolan Feldpausch, Simon Johnson, and Christopher Sweeney. Second place finish.

2019. Organized and directed a study tour of agricultural production in the Central Valley of California. 53 students. Focused on dairy farms, cotton, feedlots, carrots, citrus, cheese and butter production and water management.

2018. Coached and advised 21 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in November. Hosted by Northeast Dairy Consortium and held in New Hampshire. Mixed team competitions.

2018. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Visalia, CA: Brittany Hill, Cooper Galton, Jacob Palladino and Keith Koerner. Second place finish.

2017-2018. Organized and directed two international study trips to Italy and China in January 2018. Animal Science 2550 and 3560. Forty-five students participated in the trip to Italy focused on the dairy industry and other agriculturally related industries through Lombardia, Reggio-Emilia and Lazio. Forty-seven students participated in the trip to China to study dairy production systems, milk processing, conduct dairy farm evaluations with students from China Agriculture University and learn about culture.

2017. Organized and directed a study tour of agricultural production in the Central Valley of California. 53 students. Focused on dairy farms, cotton, feedlots, carrots, citrus, cheese and butter production and water management.

2017. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Visalia, CA: Clyde Sammons, Jamie St. Pierre, Grant Feldpausch and Lauren Hill. First place overall.

2016. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Syracuse, NY: Josh Landis, Colleen Smith, Kelsey Neckers, Greg Van Ravenwaay. First place overall.

2015-2016. Organized and directed two international study trips to Italy and China in January 2016. Animal Science 2550 and 3560. Fifty-five students participated in the trip to Italy focused on the dairy industry and other agriculturally related industries through Lombardia, Reggio-Emilia and Lazio. Forty-two students participated in the trip to China to study dairy production systems, milk processing, conduct dairy farm evaluations with students from China Agriculture University and learn about culture.

2015. Coached and advised 20 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in November. Hosted by Northeast Dairy Consortium and held in Syracuse, NY. Mixed team competitions.

2015. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Syracuse, NY: Kristin King, Edward Facer, Meghan Vaill and Amanda Moretti. Second place overall.

2015. Organized and directed a study tour of agricultural production in the Central Valley of California. 55 students.

Focused on dairy farms, cotton, feedlots, carrots, citrus, cheese and butter production and water management.

2014. Coached and advised 18 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in November. Hosted by Delaware Valley College and held in Harrisburg, PA. Mixed team competitions.

2014. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Ft. Wayne, IN: Anna Laggis, Cassie Chittenden, Ralph Cunningham, Patrick Redman. First place overall.

2013-2014. Organized and directed two international study trips to Italy and Germany in January 2014. Animal Science 2550 and 3560. Forty-one students participated in the trip to Italy focused on the dairy industry and other agriculturally related industries through Lombardia, Tuscany, Reggio-Emilia and Lazio. Fifty-one students participated in the trip to Germany to study biogas energy production, European support systems for energy, agriculture and dairy production, and culture.

2013. Coached and advised 21 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in November. Hosted by Miner Institute and held in Chazy, NY. Mixed team competitions.

2013. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April in Ft. Wayne, IN: Anna Smith, Dylan Nelson, Matt Sharpe and Stephen Gould.

2013. Organized and directed a study tour of agricultural production in the Central Valley of California. 57 students. Focused on dairy farms, cotton, feedlots, carrots, citrus, cheese and butter production and water management.

2012. Coached and advised 24 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in November. Hosted by University of Maine and held in Waterville, ME. Mixed team competitions.

2012. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Ariel Garland, Daniel Durfee, Theodore Christoph, and Jordan Fisher. The team was one of 3 that placed in the Platinum category (first place) among 32 teams that competed in Virginia.

2011-2012. Organized and directed two international study trips to Italy and Germany in January and March 2012. Animal Science 2550 and 3560. Fifty-one students participated in the trip to Italy focused on the dairy industry and other agriculturally related industries through Lombardia, Tuscany, Reggio-Emilia and Lazio.
Fifty-one students participated in the trip to Germany to study biogas energy production, European support systems for energy, agriculture and dairy production, and culture.

2011. Coached and advised 26 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by SUNY Morrisville and held in Watertown, NY. Mixed team competitions.

2011. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Matthew Bull, Jason McNamara, Samuel Fessenden, and Corey Kayhart. The team placed in the Platinum category (first place) among 32 teams that competed in North Carolina.

2011. Organized and directed a study tour of agricultural production in the Central Valley of California. 54 students. Focused on dairy farms, cotton, feedlots, carrots, citrus, cheese and butter production and water management.

2010. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Breanna Fulper, Brett Feldpausch, Shane Reynolds, Chad Wall. The team placed in the Platinum category (first place) among 32 teams that competed at Visalia, CA.

2010. Coached and advised 18 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by SUNY Alfred and held in Batavia, NY. Mixed team competitions.

2009 -2010. Organized two international study trips to Italy and Germany in January and March 2010. Fifty- two students participated in the trip to Italy focused on the dairy industry and other agriculturally related industries through Tuscany, Reggio-Emilia and Lazio. Sixty-two students participated in the trip to Germany to study biogas energy production, European support systems for energy, agriculture and dairy production, and culture.

2009. Coached and advised 23 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by SUNY Cobleskill and held in Glens Falls, NY. Mixed team competitions.

2009. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Betsey Howland, Libby Gaige, Chris Blauch, and Clayton Wood. The team placed in the Platinum category among 32 teams that competed at Syracuse, NY.

2009. Organized and directed a study tour of agricultural production in the Central Valley of California. 53 students. Focused on dairy farms, cotton, feedlots, carrots, citrus, cheese and butter production and water management.

2008. Coached and advised 22 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by Pennsylvania State University and held in Harrrisburg, PA. Mixed team competitions.

2007 -2008. Organized two sequential Cornell Dairy Club trips to Spain and Southern Italy in January 2008. Fifty-two students participated in the trip to Spain focused on the dairy industry and other agriculturally related industries from Madrid to Barcelona. Fifty-two students participated in the trip to Sicily and Rome where they studied the dairy industry, wine, grapes, olive oil production and traditional cheese production.

2008. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Dustin Bliss, Jordan Creek, Blake Lutz and Marcus Richards. The team placed in the Gold category (second place) among 32 teams that competed at Madison, WI.

2007- 2009: Selected Co-Chair of the National Intercollegiate Dairy Challenge for 2009 to be held in Syracuse, NY.

2007. Coached and advised 20 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by University of New Hampshire and held in Concord, NH. Mixed team competitions

2007. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Kyle Getty, William Leone, Emily Myers and Zachary Waite. The team placed in the Platinum category among 31 teams that competed at Sioux Falls, SD.

2006. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Griffin Moag, Robert DiCarlo, Matthew Hanehan and Travis Allen. The team placed in the Platinum category among 30 teams that competed at Twin Falls, ID.

2006. Co-Chair Northeast Regional Intercollegiate Dairy Challenge: Host school and co-chair responsible for contest management and coordination for 15 regional colleges and 120 students. Held in Waterloo, NY.

2006 Coached and advised 19 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by Cornell University and held in Waterloo, NY. Mixed team competitions

2006. Developed the itinerary, arranged all of the travel, lodging and activities for 96 members of the Cornell Dairy Science Club's study trip to Northern Italy in January. Study trip to learn production systems for Grana Padano, Parmigiano, Pecorino, and other famous cheeses, wine, buffalo and sheep dairy production, prosciutto, quota's and DOP characteristics and rules.

2005. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Kirsty Smith, Andrew Durow, Matthew Alvernaz, Nicole Olynk. The team placed in the Platinum category (First place) among 30 teams that competed at State College, PA.

2005 Coached and advised 19 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by the SUNY Morrisville. Mixed team competition.

2004-2005. Member of the Steering Committee charged with organizing the Northeast Intercollegiate Dairy Challenge. The committee meets at least four times per year. Worked on Technology Committee, Fundraising, Farm Selection Committee.

2004. Coached and advised four senior Animal Science students at the National Intercollegiate Dairy Challenge Contest in April: Bret Bossard, Darin Hill, Kendra Inman, and Kristin Quesnel. The team placed in the Platinum category (highest) among 30 teams that competed at State College, PA.

2004. Coached and advised 19 senior Animal Science students at the Northeast Intercollegiate Dairy Challenge Contest in October. Hosted by the University of Vermont. Mixed team competitions.

2003- 2004. Developed the itinerary, arranged all of the travel, lodging and activities for 52 members of the Cornell Dairy Science Club's trip to Southern England in January, 2004. The group visited many cities and regions in England (Bath, Exeter, Dover, London, Dorset, Devon, Cornwall, the Eden Project, Stonehenge, etc.) and met with industry leaders and professionals to learn about their dairy industry, BSE, foot and mouth disease, quotas and European Union issues affecting trade and profitability.

RESEARCH RESPONSIBILITIES

GRANT SUPPORT Active Grants/Contracts/Gifts

From 1998 to the present, over $20,000,000 in money and indirect support from industry. Work conducted with these monies includes developing nutrient requirements for growing dairy cattle and elucidating mechanisms of mammary development in growing heifers. Further, this includes improved understanding of nitrogen metabolism in growing and lactating dairy cattle and improved amino acid balancing in lactating dairy cattle. Additionally, much work has been conducted to improve the functionality and precision of the Cornell Net Carbohydrate and Protein System model currently used to formulate diets for about 70% of dairy cattle in North America.

2024: USDA-NRCS-NHQ-CIGOFT-23-NOFO0001312: for the On-Farm Conservation Innovation Trials. Enhanced Diet Formulation Strategies to Reduce Nitrogen Excretion from Lactating Dairy Cattle and Herd Level Methane Inventory Estimations to Develop a Baseline for Reduction, **$4,000,000**.

2024: Cornell Net Carbohydrate and Protein System – Development of Low Nitrogen Diet Strategies for New York Dairy Producers and Nutritionists with Diet Costs and Income over Feed Cost Considerations and Developing Herd Level Enteric Methane Inventories. NY State Department of Environmental Conservation. **$526,591.00**

2024. Kemin Industries. Evaluating ruminally protected forms of lysine to improve amino acid balance in high producing lactating dairy cattle using the CNCPS v6.55 and v7 predictions for amino acid requirements**. $235,635.**

2023: ENE23-188, Implementation of Improved Nutrient Requirement and Supply Predictions to Reduce the Environmental Impact of Dairy Production in the Northeast US. Northeast SARE Grant funded for $150,000. Awarded

2022 EDF-Cornell Atkinson Impact Grant. "Streamlining Assessment of Enteric Methane Inhibiting Drugs & Feed Additives for FDA Approval" $485,768. Co-PI's Pearen (EDF), McFadden and Van Amburgh. Awarded

2022 Dairy Management, Inc. Programming and development of the Cornell Net Carbohydrate and Protein System version 7.0. $250,000. Awarded

2021 Dairy Management, Inc. Updates and modifications to the Cornell Net Carbohydrate and Protein System versions 6.55 and 7.0 to quantify, help manage and incrementally mitigate greenhouse gas emissions from dairy cattle. $194,000. Awarded

Agriculture and Food Research Initiative (AFRI) Competitive Grants Program
PI: Abbaspourrad, Alireza, **Co-PI: Mike Van Amburgh**. Project title: Targeted Delivery of Dietary Supplementation in Dairy Cow with Smart High Internal Phase Emulsion (HIPE) Platform. $500,000. Awarded.

Agriculture and Food Development Authority. Ireland. Teagasc Walsh Fellowship 2020.
PI: **Van Amburgh.** Co-PI: Brian McCarthy, Teagasc, Moorepark, Ireland. Proposal title: *The investigation of milk fat*

depression in dairy cattle under intensive pasture based management systems" €22,000 per year for a joint Ph.D. student. (Approximately $100,000 total). Awarded. Put on hold due to pandemic.

Current Visiting Fellows/Ph.D.students/Postdoctoral Associates:

- Ananda B. Portela Fontoura - postdoctoral associate

Past Postdoctoral Associates/Visiting Fellows/non-degree students:

- Marie Oury1999 - 2000
- Massimiliano Olivieri 1998
- Francesco Vizzini 2000 - 2001
- Dr. Wilhelm Knaus, Visiting Fellow, BOKU - University of Natural Resources and Applied Life Sciences, Department of Livestock Sciences, Vienna, Austria, Summer 2002
- Dr. Federico Righi, University of Parma, Italy, Fall, 2004
- Dr. Isa Fusaro**,** Dip.di Sc.degli Alimenti, Università di Teramo, Italy Fall 2006
- Dr. Jinshi Zhao, China Agricultural University, Fall, Spring, 2007-2008
- Dr. Hugo Bernal-Barragan, Fulbright Fellow, Mexico, 2008-2009, (Co-Host with Dr. Blake)
- Dr. Anusorn Cherdthong, Faculty of Agriculture, Khon Kaen University, Thailand, 2009
- Dr. Zhijun Cao, Visiting Professor, China Agriculture University, 2010-2011
- Dr. Daniele Pederzani, DVM, non-degree Ph.D student, University of Parma, Parma, Italy 2011.
- Dr. Yongli Qu, College of Animal Science and Technology, Heilongjiang Bayi Agricultural University 2012-2013.
- Beatrice Tozzi, Ph.D. student, University of Pisa 2013
- Linda Semprucci, graduate student, University of Parma, 2013
- Dr. Vera Lúcia Banys, Associate Professor, UFG - Universidade Federal de Goias/Campus Jatai 2013
- Ms. Thaiz Furtado Silva, DVM Student, UFG - Universidade Federal de Goias/Campus Jatai, 2013
- Dr. Andreas Foskolos, postdoctoral associate 2012-2015
- Dr. Edgar Collao Sainz, visiting professor, 2012-2013
- Elena Bonfante, visiting Ph.D. student from University of Bologna 2016- 2017
- María Ercilda Rodríguez Prado, University of Barcelona, Fall 2018
- Mara Bertocchi, 2019
- Laura Denti, 2019
- Martina Cortese, University of Padua, Italy. 2019
- Andreas Zanotti University of Parma, Italy 2022
- Tommaso Danese, University of Parma, Italy 2022-2023
- Mikenzie Hanlon, University of Thessaly, Greece, 2022-2023
- Leandros Makridis, University of Thessaly, Greece, 2022-2023
- P. Andrew LaPierre, 2021-2023

GRADUATE FIELD MEMBERSHIPS:

- Member, Graduate Field of Animal Science

GRADUATE MAJORS:

Current:

- Alex Benoit, expected 2026
- Maria Rebeca Villobos, M.S. Animal Science
- Junwei Zhu, MPS

Total Completed:

- Maria Carolina Diaz, M.S. 1999
- Jeffery N. Tikofsky, M.S. 2001
- Julia Smith D.V.M., Ph.D 2002
- Juan Marini, Ph.D 2002
- Jenny Kelsey Mills, M.S. 2004
- Deborah Ross, M.S. 2004
- Matthew Meyer, Ph.D 2005
- Luis Nabte-Solis, M.S. 2007
- Erin Peterson, M.S. 2007
- Megan Hofherr, M.S. 2010
- Erin Recktenwald, Ph.D. 2010
- Emiliano Raffrenato, Ph.D. 2011
- Fernando Soberon, Ph.D. 2011
- Deborah Ross, Ph.D. 2012
- Marcelo Gutierrez, M.S. 2014
- Ryan Higgs, Ph.D. 2014
- Henning Haaren, MPS 2016
- Samuel Fessenden, Ph.D. 2016
- Alessandro Zontini, Ph.D. 2016
- Kaitlin Andrews, M.S. 2016
- Rodrigo Molano, Ph.D. 2020
- Michael Dineen, Ph.D. 2020
- P. Andrew LaPierre, Ph.D. 2021
- Ananda Barbara Fontoura, Ph.D. 2022
- Andres Ortega, Ph.D. 2023

GRADUATE MINORS:

Current:

- Gutierrez Oviedo, Fabian, Ph.D, Animal Science, Nutrition
- You, Charlie, Ph.D., Animal Science, Nutrition
- Ferreira, Marina Madureira, Ph.D. Animal Science
- Ferro, Liza, Ph.D. Animal Science
- Somare, Francisco, M.S. Animal Science

Total Completed:

- Rogerio de Paula Lana, Ph.D. 1997
- Miriam Louise Kelly, M.S. 1998
- Rodrigo Ruiz, Ph.D. 2001
- Pablo Jose Guiroy, Ph.D. 2001
- Denis Osman Molina Benitez, Ph.D. 2002
- Joseph Eisele, M.P.S. 2002
- Claudia Coen, Ph.D. 2002
- Michael Baker, Ph.D. 2003
- Benjamin Corl, Ph.D. 2003
- Robert Rhoads, Ph.D. 2003
- Kathleen Ogborn, M.P.S. 2005
- Tricia Stewart, M.S. (Education) 2005

- Cristina Lanzas, Ph.D. 2006
- Seong Wong Seo, Ph.D. 2006
- Fernando Soberon, M.S. 2007
- Manolo Ramos-Nieves, M. S. 2007
- Omar Cristobal, M.S. 2009
- Ryan Higgs, M.S. 2009
- Kimberly Morrill, M.S. Animal Science (University of New Hampshire – external committee member) 2009
- Laurie Winkleman, Ph.D. 2011
- Manolo Ramos-Nieves, Ph.D. Animal Science, 2013
- Victor Absalon-Medina, Ph.D. Animal Science, 2013
- Crystal Davenport, M.S. Nutritional Sciences, 2013
- Maris Mayumi McCarthy, Ph.D., Animal Science, 2015
- Carla Foditsch, M.S. Animal Science, 2015
- Luciana S Caixeta, Ph.D. Animal Science 2016
- Christopher Krumm, Ph.D., Animal Science 2016
- Benjamin Donald Scott, M.S., Animal Science 2016
- Larissa Vieira Di Marzo, M.S. Food Science 2017
- Andre Gustavo Vieira Teixera, Ph.D. Animal Science, 2018
- Sarah Elizabeth LaCount, Ph.D. Animal Science, 2019
- Leonardo Bringhenti, PhD. Animal Science, 2019
- Allison Kerwin, Ph.D. Animal Science, 2021
- Matilde Portnoy, Ph.D. Food Science, 2023
- Antonio Carlos Ramos dos Santos, Ph.D. Animal Science 2023
- Tate Nelson, Ph.D. Animal Science 2024
- Jorge Armando Barrientos Blanco, Ph.D. Animal Science 2023
- Trent Westhoff, Ph.D. Animal Science 2024
-

External Examiner:

- Alexandra Sly, Ph.D. University of Pretoria, South Africa. 2019
- John Doelman, Ph.D. University of Guelph – External Examiner, 2011

Undergraduate Honors students:

- Alexandria Benoit, 2020
- Julia Fouts, 2020
- Courtney Hoff, 2018
- Haowen Hu, 2018
- Andres Ortega, 2017
- Paul Andrew Lapierre, 2014
- Daniel Lopez, 2012
- Kristen Russomanno, 2012 (Biology and Society major)
- Jason McNamara II, 2011
- Samuel Fessenden, 2011
- Scott Brown, 2011
- Chad Wall, 2010
- Jenny Mills, 2001

- Amy Bork, 1999
- Monica Foote, 1999
- Jacob Voorhees, 1999
- Sarah Wilson, 1998

OTHER CURRENT PROFESSIONAL ACTIVITIES

PROFESSIONAL SOCIETIES:

- American Dairy Science Association
- American Society of Animal Science

PROFESSIONAL HONORARIES:

- National Dairy Shrine

EDITORIAL BOARDS:

- Ad-hoc reviewer Journal of Dairy Science
- Ad hoc reviewer for the Journal of Animal Science
- Ad hoc reviewer for Animal Feed Science and Technology
- Ad hoc reviewer for Journal of Nutrition
- Ad-hoc reviewer for Livestock Science
- Ad-hoc reviewer for Animals
- Ad-hoc reviewer for Animal
- Ad-hoc reviewer for Journal of Endocrinology
- Ad-hoc reviewer for Professional Animal Scientist
- Ad-hoc reviewer for Grass and Forage Science
- Ad-hoc reviewer for Animal Production Science
- Ad-hoc reviewer for PlosOne
- Ad-hoc reviewer for Biotechnology and Bioengineering
- Ad-hoc reviewer for Lipids
- Ad-hoc reviewer for Agronomy
- Ad-hoc reviewer for Applied Animal Science (formerly Professional Animal Science)
- Ad-hoc reviewer for Amino Acids
- Ad-hoc reviewer for Journal of the Mechanical Behavior of Biomedical Materials
- Ad-hoc reviewer for Veterinary Medicine and Science
- Ad-hoc reviewer for Journal of Agriculture and Food Chemistry

COMMITTEE ASSIGNMENTS:

International/National:

2003 – 2011 Member of Feed Analyses Consortium (disbanded 2011) 2008

Member NC 1042 Regional Committee

2001- 2007 Member NC-119/1119 Regional Committee

American Dairy Science Association/American Society of Animal Science:

1998 – 2001 Member of the Graduate Student Paper Competition Committee (Chairperson, 2001) 1998-

2001 Member of R. M. Hoyt Scholarship Selection Committee

2001-2005 Member of Growth and Development Committee (Chair ADSA 2004)

2004- 2007 Foundation Scholar Award Committee, ADSA

2005- 2006 American Dairy Science Association/American Society for Animal Science **Northeast Regional Secretary**

2006- 2007 American Dairy Science Association/American Society for **Animal Science Northeast Regional Vice President**

2007- 2008 American Dairy Science Association/American Society for Animal Science **Northeast Regional President**

2008 American Dairy Science Association, Strategic Planning Committee

2009 - 2012 American Dairy Science Association, member Lactation Committee

Chair 2011-2012 (organized the Lactation symposium on neonatal programming for the ADSA meeting 2012 entitled "The Long-Term Impact of Epigenetics and Maternal Influence on the Neonate through Milk-Borne Factors and Nutrient Status" with Harald Hammon, F. Skip Bartol, Katie Hinde, Paul Kenyon and Fernando Soberon.

2009-2010 Member organizing committee, American Dairy Science Association, 19th Discover Conference on Food Animal Agriculture "Key Issues in Sustainability of the Dairy Industry," .

2010-2011 Member organizing committee, American Dairy Science Association, "22nd ADSA DISCOVER Conference, "Milk Components: Opportunities for Maximizing Farm Gate Returns and Meeting Manufacturing Needs".

2011 -2013 ADSA-AFIA awards committee member

2011- 2023 ADSA – Land O'Lakes Teaching and Advising Award – committee member 2011-2014,

2019-2020 Member of the ADSA/ASAS Growth and Development Committee 2012-2013 Member

organizing committee, American Dairy Science Association, "25th ADSA
DISCOVER Conference, "Impact of nutrition and management on the calf and future performance and immune function".

State/Local:

2008– 2011 New York Dairy Task Force, Nutrient Management Committee, NY
Farm Viability Institute

2005 Member Alfred State College Farm Task Force. Assigned by the President to act as an external reviewer with five other industry representatives to determine the future of the Alfred dairy facility and teaching program.

2004 Chairperson of Alfred State College Agriculture Curriculum evaluation committee

University:

2020- current Cornell University Research Integrity Committee, Co-Chair

2019-2020 Cornell Academic Integrity Review Committee, Chair

2002 – 2011 Animal Science Representative to University Faculty Senate

2011 – 2012 Member CARE Director Search committee (Chaired by Cathy Long)

College:

2000 Faculty search committee for Agricultural Education position 2003-

present Tenure review committees.

2005 Tenure review committee (three reviews) served as chairperson for one committee.

2004-2005 Chairperson, Search committee in Animal Science,
Ruminant Nutrition and Modeling –Interviewed nine candidates over two separate searches. Search resulted in the hiring of Pekka Huhtanen.

2006- 2013 Member of CALS curriculum committee 2009

Search committee for CALS Registrar

2009- 2010 Member Animal Science search committee – Physiology position

2010 External member search committee for CALS Director of
Admissions position

2010 Member Animal Science search committee – Dairy Management
Position

2015 Member of joint College of Veterinary Medicine and CALS/Animal Science search committee for Sr. Lecture

2015-2016 Member Animal Science search committee – Dairy Modeling
and Extension position

2015-2016 Member Animal Science search committee – Dairy Metabolism position 2017-

2018 Member of Animal Science search committee- Modeling position

2017 Ad hoc committee for Tenure and Promotion, CVM 2018 Ad-hoc committee for Tenure and Promotion, CVM 2019 Ad-hoc committee for Tenure and Promotion, CVM 2020 Ad-hoc committee for Tenure and Promotion, CVM
2021- Ad-hoc committee for Tenure and Promotion, Food Science
2021- current, Chair of Search Committee for the Everett Endowed faculty position in Animal Science
2022

Department:

2002 – 2003 Centennial Celebration Committee 2001 –
2006 Member of social committee

2001 - 2008 LARTU research review committe
1998 - present Curriculum Committee – Animal Science,
2006 to 2013 Chair of Committee and Director of Undergraduate Studies 1998 -

1999 Website Committee – Animal Science
1996 - present Cornell Nutrition Conference Program Committee. (Program Chair 2000, 2010). 2005 – 2010 Member of exploratory and development committee for new dairy construction at the Teaching and Research Farm
2010 – present T&R and LARTU research review committee
2012-present Chair of CURC operations committee

OTHER CURRENT PROFESSIONAL CONTRIBUTIONS

2009 - 2010	Worked with University of Parma, Italy and College of Agriculture and Life Sciences to develop a reciprocal agreement for student exchange that will be initiated in Spring Semester 2011. Four CALS students attended the University of Parma in the first year. The program is continuing to attract students.
2008	Helped establish an internship program with a world class cheese, wine and olive oil producer in Tuscany for Cornell students interested in cheese production and vertical integration (http://www.parrina.it/). Students that have participated to date (Kyle Getty, Matt Kyle, Sarah-Jean Griffen, Kendra Murray, Elizabeth Fullerton, Anna Laggis, Anika Zuber, Kristen Torgerson, Erik Jorgensen, Jennifer King, Kristin Gallagher, Ellie Ainslie, Isabelle Leonard).
2007 - 2008	Helped develop a reciprocal agreement with University of Barcelona for exchange students and also with the Institut de Recerca i Tecnologia Agroalimentaries (IRTA) in Barcelona, Spain to allow our Dairy Fellows students to intern at a large dairy facility outside of Barcelona (Libby Gaige was the first student to participate in the exchange during Summer 2008).
2006 - 2014	National Intercollegiate Dairy Challenge Board of Directors Member (NAIDC http://www.dairychallenge.org/ http://www.dairychallenge.org/library/news/Hoards-April2011- DairyChallenge10thAnniversary.pdf). Responsible for further development of national and regional dairy management teaching and evaluation activities. 2007– 2009 National Contest Co-Chairperson 2011 – 2012 Vice Chair Board of Directors 2012 – 2014 Chair of Board of Directors 2010 – present member of Program Committee
2005 - 2011	Member of the development team for CPM Dairy nutrition Program (Cornell University. University of Pennsylvania School of Veterinary Medicine, and Miner Inst., Chazy NY). In 2010 the leadership and direction of the model reverted back to University of Pennsylvania and Cornell has no direct relationship with the future direction of the program.
1996 to present	Member of the development team for the Cornell Net Carbohydrate and Protein System a nutrition model that is a licensed invention with Cornell and is used around the world to formulate diets for lactating and growing cattle. Currently sever as leader of the model development group.
2003 to 2008	Developed a reciprocal agreement with Instituto Zooprofilattico Sperimentale Della Regioni Lazio e Toscana, Rome, Italy, a public health institution under the control of the National Public Health Service of Italy. The objective of the agreement was to develop programs to improve farm profitability and management in the Lazio region. This resulted in several workshops involving public health officials, regional politicians, livestock advisors, agronomists, and veterinarians.

2004-2005	Chaired the organizing committee for the NRAES (Natural Resource, Agriculture, and Engineering Service) conference: Dairy Calves and Heifers: Integrating Biology and Management. Held in Syracuse, January 25-27. ~300 participants from the U.S. and foreign countries. Academics, dairy producers, calf and heifer raisers, nutritionists. NRAES Publication -175
2003- current	Member of the Northeast Dairy Challenge Contest organizing committee. 2005 – present Program committee (Chair 2006, 2015, 2016) 2005 Farm selection committee 2003 – 2004 Technical committee

SPEAKING ENGAGEMENTS & MEDIA

RECENT INVITED PRESENTATIONS

Too numerous to list. I've been invited to speak at conferences and meetings in 11 countries (England, Denmark, Netherlands, Spain, France, Austria, Switzerland, Turkey, Mexico, Uruguay, Argentina) in 2024. I gave at least 20 talks in the US in 2024 in support of the CNCPS and related to our research on productivity and the reduced environmental impact of dairy cattle.

Van Amburgh, M. E. 2018: Invited Review: Modifications to the Cornell Net Carbohydrate and Protein System related to environmental issues—Capability to evaluate nitrogen and phosphorus excretion and enteric carbon dioxide and methane emissions at the animal level. ARPAS Symposium, American Dairy Science Association, Sustainability, and Integrated Systems. Knoxville, TN.

Van Amburgh, M. E. 2018 Invited Review: Integration of post-weaning nutrient requirements and supply with composition of growth and mammary development in modern dairy heifers. Growth and Development Symposium. American Dairy Science Association. Knoxville, TN.

Van Amburgh, M. E. 2018: Environmental Sustainability, Food Security and Animal Food Production: Milk and Dairy as a Case Study as part of the Sustainable Dairy Systems 2018 3rd Annual Cornell Dairy Center of Excellence Symposium presented in partnership with
The David R. Atkinson Center for a Sustainable Future. Cornell University.

Van Amburgh, M.E. 2015. Innovation through Interconnection: maximizing feedback impact – with David Barbano and Marina von Keyserlingk. Cornell Food Systems Global Summit. Implications of Taking a Systems Approach. Cornell Institute for Food Systems. Dept. of Food Science.

Van Amburgh, M.E. 2015. Updates to the CNCPS to Improve the Ability to Balance for all Essential Amino Acids. 29th ADSA Discover Conference on Amino Acid Requirements.
Eaglewood Resort & Spa, Itasca, IL

Van Amburgh, M.E. and F. Soberon. 2013. Early life nutrition and long-term productivity in calves. 25th ADSA Discover Conf: New Developments in Immunity, Nutrition, and Management of the Pre-ruminant Calf. Eaglewood Resort & Spa, Itasca, IL

Van Amburgh, M.E. Cow Longevity Conference. 2013. Tumba, Sweden. Delaval International Research Program. Early life management and productivity of dairy calves.

Van Amburgh, M. E., H. Hammon**,** and Soberon, F. 2013. The role of colostrum components on neonatal development and growth with emphasis on the calf. ADSA Multidisciplinary and International Leadership Keynote. Colostrum Quality, Analytical Methods, and Processing Challenges. J. Dairy Sci. 96: E suppl. 1:405.

Van Amburgh, M.E., 2012. "Revising Energy Requirements of Calves and Heifers". 2012 FASS Ruminant Nutrition

Symposium. Phoenix, AZ. Abstr. 862.

Soberon, F., and **M. E. Van Amburgh**. 2012. "From Calf to Dairy Cow: Early Life Management and Long-Term Productivity". 2012 FASS Lactation Symposium "The Long-Term Impact of Epigenetics and Maternal Influence on the Neonate through Milk-Borne Factors and Nutrient Status". Abstr. 746.

Van Amburgh, M. E. 2011. Are there limits to milk fat and protein production: What can we learn from other countries? ADSA Discover Conference 22, Milk Components: Opportunities for Maximizing Farm Gate Returns and Meeting Manufacturing Needs. Itasca, IL.

Van Amburgh, M. E. R. J. Higgs, L. E. Chase. 2011. Milk protein: Formulating for low protein diets. ADSA Discover Conference 22, Milk Components: Opportunities for Maximizing Farm Gate Returns and Meeting Manufacturing Needs. Itasca, IL.

Van Amburgh, M. E., F. Soberon, E. Raffrenato, J. Karzses, and R. W. Everett. 2011. Taking the Long View: Treat Them Nice as Babies and They will be Better Adults. AABP Annual Meeting, St. Louis, MO.

Van Amburgh, M. E. 2011. Application of the CNCPS under Indian feeding and management conditions. Scientific advisory meeting. Godrej Agrovet. Bangalore, India

Van Amburgh, M. E. and E. B. Recktenwald. 2011. Advances in nitrogen metabolism and utilization in dairy cattle. 2nd International Symposium on Dairy Cow Nutrition and Milk Quality. Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing.

Van Amburgh, M. E. 2011. Formulating and management of rations for dairy cattle. 2nd International Symposium on Dairy Cow Nutrition and Milk Quality. Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing.

Van Amburgh, M. E. 2010. American Dairy Science Association**,** ARPAS-Ruminant Nutrition Symposium "Nitrogen Recycling: Capturing the Implications in RDP Requirements and Energy Utilization". American Dairy Science Association Annual Meeting, Denver, CO.

Van Amburgh, M.E. 2010. Adapting the CNCPS as a platform for nutrient requirements in the Chinese Dairy Industry. Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing.

Van Amburgh, M.E. 2010. Improving the efficiency of milk production in China; foundations for ration formulation and implementation in the Chinese Dairy Industry. Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing

Van Amburgh, M. E., L. Chase, Q. Ketterings, K. Czymmek, C. Gooch, and T. R Overton. 2010. The Efficiency of Use of Nitrogen and Phosphorus in Lactating Dairy Cattle with Whole Farm Implications. 19th ADSA Discover Conference on Food Animal Agriculture:
Key Issues in Sustainability of the Dairy Industry. American Dairy Science Association, Nashville, IN

Van Amburgh, M.E. 2009. Early life calf management and nutrition: impacts on lifetime productivity. First International Symposium on Dairy Cow Nutrition and Milk Quality. Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing

Van Amburgh, M. E. 2008. Current State of Nutrient Requirements for Growth, Development of the Digestive System and Immune Function. ADSA Discover Conference 15 on Biology of the Calf. American Dairy Science Association, Roanoke, VA

Van Amburgh, M. E. 2008. Feed and Forage Analyses: Issues in characterizing inputs needed for CNCPS/CPM Dairy and NRC Models. The NIRSC, FeedAC, and National Forage Testing Association Joint Conference. Indianapolis, IN

Van Amburgh, M. E. 2008**.** Effect of Early Life Nutrient Intake on Long-Term Productivity of Calves. Southwest

Nutrition Conf. Phoenix, AZ.

Van Amburgh, M. E. 2007. Improving the efficiency of use of nitrogen in lactating dairy cattle: revisiting the CNCPS approach. Cornell Nutrition Conference Degussa Pre-conference Symposium. Syracuse, NY

E. E. Connor, M. J. Meyer, R. W. Li, **M. E. Van Amburgh**, Y. R. Boisclair, and A. V. Capuco. 2006. Regulation of gene expression in the bovine mammary gland by ovarian steroids. American Dairy Science Assoc. Annual Meeting.

Van Amburgh., M.E. 2005. A fair but critical review of the National Research Council nutrient recommendations for calf and heifer growth. American Dairy Science Association Ann. Meeting, Cincinnati, OH.

Van Amburgh, M. E. and M. J. Meyers. 2005. Mammary development and milk yield potential. Professional Heifer Growers Association National Meeting. Sioux Falls, SD.

Van Amburgh., M.E. 2004. University of Nottingham, Easter School. Rearing the Modern Dairy Heifer, International Conference. Speaker. 200 dairy professionals, academics, students, producers. Nottingham, England.

Van Amburgh, M.E. 2004. Starting from birth**:** Developing a more systematic approach to calf nutrition and management. American Dairy Science Association Foundation Scholar Lecture. St. Louis, MO

Van Amburgh, M. E. 2004. August 29 - September 4. Urea Transporters and Nitrogen Recycling in Ruminants. International Ruminant Physiology Meeting. Copenhagen, Denmark. 250 participants, primarily academics and researchers. Speaker.

RESEARCH AND EXTENSION GRANT REVIEW PANELS

1996 - present Reviewer for Hatch Grants. College of Agriculture and Life Sciences, Cornell University

2000 - 2001 Reviewer for the National Academy of Sciences Board on Agriculture, Nutrient Requirements of Dairy Cattle, 7th Edition.

1997 - 2005 Reviewer for USDA National Research Initiative Grants 2003 -

2008 Reviewer for Bard Grants

2004 - 2005 Reviewer for National Institutes of Health Grants Program

2008 - 2010 The United States - Israel Bi-National Agricultural Research and Development Fund Research Proposal Review Panel Member

CONSULTING

2009 - 2013 Elanco Animal Health, Dairy Advisory Board member

2001 - 2010 Land O' Lakes Animal Milk Division – product development related to nutrient requirements and metabolism of calves

1999 - 2025 Milk Specialties Global, Carpentersville, Ill. Scientific Advisory Committee member.

1996 - 1997 Scientific review committee – somatotropin and growth of dairy replacement heifers. Monsanto Inc., St. Louis, MO.

2018 - 2020 Kemin Industries, Des Moines, IA. Advisory committee – ruminant products

RESOURCE FOR MEDIA

Written articles and answered questions for Northeast Dairy Business
Magazine, Hoards Dairyman Magazine, Feedstuffs,
Dairy Herd Management magazine, Dairy Today magazine, Progressive Dairymen magazine, Slate, National Public Radio, CNN, NY Times, and many other media outlets.

RESEARCH PUBLICATIONS

Marumo, J. L., LaPierre, P. A., & **Van Amburgh, M. E.** (2024). Urinary and fecal potassium excretion prediction in dairy cattle: A meta-analytic approach. *JDS communications*, *5*(4), 272-277.

Marumo, J. L., LaPierre, P. A., Ortega, A. F., & **Van Amburgh, M. E.** (2024). Predicting orthophosphate in feces and manure from dairy cattle. *JDS communications*, *5*(1), 18-22.

Marumo, J. L., LaPierre, P. A., & **Van Amburgh, M. E.** (2023). Enteric methane emissions prediction in dairy cattle and effects of monensin on methane emissions: A meta-analysis. *Animals*, *13*(8), 1392.

Ortega, A. F., Zhao, H., & **Van Amburgh, M. E.** (2023). Development and Validation of a Method for Hydrolysis and Analysis of Amino Acids in Ruminant Feeds, Tissue, and Milk Using Isotope Dilution Z-HILIC Coupled with Electrospray Ionization Triple Quadrupole LC-MS/MS. *Journal of Agricultural and Food Chemistry*, *72*(1), 833-844.

Fontoura A.B.P., V. Sáinz de la Maza-Escolà, A.T. Richards, B.N. Tate, **M.E. Van Amburgh**, E. Grilli, J.W. McFadden. 2023. Effects of dietary organic acid and pure botanical supplementation on growth performance and circulating measures of metabolic health in Holstein calves challenged by heat stress. J. Dairy Sci. 106:2904-2918.

Higgs, R. J., L.E. Chase, C.G. Schwab, B. Sloan, D. Luchini, P.A. LaPierre, and **M. E. Van Amburgh**. 2023. Balancing dairy cattle diets for rumen nitrogen and methionine or all essential amino acids relative to metabolizable energy. J. Dairy Science 106:1826-1836.

Chandler, T.L., T.A. Westhoff, T.R. Overton, A.L. Lock, **M.E. Van Amburgh**, A.S. Sipka, and S. Mann. 2022. Lipopolysaccharide challenge following intravenous amino acid infusion in postpartum dairy cows: I. Production, metabolic, and hormonal responses. J. Dairy Sci. 105:4593-4610.

M. Gutierrez-Botero, D. A. Ross, and **M. E. Van Amburgh.** 2022. Formulating diets for intestinal unavailable nitrogen using blood meal in high-producing dairy cattle. J. Dairy Sci. (in press) https://doi.org/10.3168/jds.2021-21730

T.L.Chandler, T.A.Westhoff, T.R.Overton, A.L.Lock, **M.E.Van Amburgh**, A.S.Sipka, and S.Mann. 2022 Lipopolysaccharide challenge following intravenous amino acid infusion in postpartum dairy cows: I. Production, metabolic, and hormonal responses. J. Dairy Sci. 105:4593-4610.

M.Dineen, B.McCarthy, P.Dillon, F.Coughlan, N.Galvin, **M.E.Van Amburgh**. 2021. The effect of concentrate supplement type on milk production, nutrient intake, and total-tract nutrient digestion in mid-lactation, spring- calving dairy cows grazing perennial ryegrass (*Lolium perenne* L.) pasture. 104:11593-11608.

Mateus Z. Toledo, Matias L. Stangaferro, Rodrigo S. Gennari, Rafael V. Barletta, Martin M. Perez, Robert Wijma, Emily M. Sitko, German Granados, Magdalena Masello, **Michael E. Van Amburgh**, Daniel Luchini, Julio O. Giordano, Randy D. Shaver, and Milo C. Wiltbank. 2021
Effects of feeding rumen-protected methionine pre- and postpartum on reproductive outcomes of multiparous Holstein cows. J. Dairy Sci. 104:11210-11225.

Mateus Z. Toledo, Matias L. Stangaferro, Rodrigo S. Gennari, Rafael V. Barletta, Martin M. Perez, Robert Wijma, Emily M. Sitko, German Granados, Magdalena Masello, **Michael E. Van Amburgh**, Daniel Luchini, Julio O.

Giordano, Randy D. Shaver, and Milo C. Wiltbank. 2021
Effects of feeding rumen-protected methionine pre- and postpartum in multiparous Holstein cows: Lactation performance and plasma amino acid concentrations. J. Dairy Sci. 104:7583-7603.

M. Dineen, B. McCarthy, D. Ross, A. Ortega, P. Dillon, and **M.E. Van Amburgh**. 2021 Characterization of the nutritive value of perennial ryegrass (*Lolium perenne* L.) dominated pastures using updated chemical methods with application for the Cornell Net Carbohydrate and Protein System. Anim. Feed Sci. Tech. 272:114752

M. Dineen, B. McCarthy, D. Ross, A. Ortega, P. Dillon, and **M.E. Van Amburgh**. 2021 Microbial composition and omasal flows of bacterial, protozoal, and nonmicrobial amino acids in lactating dairy cows fed fresh perennial ryegrass (*Lolium perenne* L.) not supplemented or supplemented with rolled barley. J. Dairy Sci. 104:4192-4205.

J. Stamey Lanier, F. K. McKeith, N. A. Janovick, R. A. Molano, **M. E. Van Amburgh**, and J. K. Drackley. 2021. Influence of starter crude protein content on growth and body composition of dairy calves in an enhanced early nutrition program. J. Dairy Sci. 104:3082-3097.

Molano, R. A., C.L. Girard, and **M.E. Van Amburgh**. 2021. Effect of dietary supplementation of 2 forms of a B vitamin and choline blend on the performance of Holstein calves during the transition and postweaning phase.
J. Dairy Sci. 104:10812-10827.

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EXTENSION/OUTREACH RESPONSIBILITIES

Although I do not have a formal extension appointment, I participate in many state and national extension activities as part of my research program outreach. This is documented below in the section CONFERENCES/WORKSHOPS/IN-SERVICE PARTICIPATION. I spend approximately 10 to 15% of my professional time on extension and outreach related activities, at meetings, answering the phone or supporting the CNCPS.

SUMMARY OF EXTENSION AND OUTREACH ACTIVITIES

This section is required for all CALS faculty. Completion of this section will insure that formal and informal extension and outreach activities are captured in the CALS portfolio of land grant mission contributions. Some individuals may have contributions for the extension and outreach sections. The primary goal here is to capture the extension and outreach efforts of the CALS faculty.

0 % Formal appointment in Extension (Professorial, Senior Extension Associates and Extension Associates)

15-20 % Estimation of time spent in outreach activities (other than or in addition to formal appointment in Extension)

Please provide a brief summary (300 word max.) of your Extension and/or outreach activities. Describe what the activities are, how and when conducted, constituents served, impacts of the program and what indicators of success are used.

Extension	My extension activities are related to the Pro-Dairy program and other extension programs in the state. I do not have a formal extension program but am involved in developing activities like Winter Dairy Management meetings when the topic requires my expertise. I do extension meetings around the state if time allows and the topic is pertinent to my research and teaching. This impacts mostly producers and feed industry professionals in the state.
Outreach[b]	My outreach activities are a function of my research program. Due to my involvement with the Cornell Net Carbohydrate and Protein System and CPM Dairy, I spend a significant amount of time training and communicating with the dairy and livestock industry – including producers, feed chemists, nutritionists and academics, about how to apply and interpret the model. This takes place on a state, national and international basis. For example, I spoke at the National Forage Testing Association meeting about

	chemical analyses required for better prediction of nutrient supply and the variation associated with many of these assays. This impacts anyone that sends a sample to any commercial forage and feed testing laboratories, since we guide the development and conduct of procedures. The chemical description of the feeds in the CNCPS drives the assays and the analyses provided by the commercial laboratories. In addition, my research work in several areas of ruminant growth, development, nutrition and physiology has much basis in application. It results in my being asked to various conferences and meetings in the U.S. and elsewhere.

Extension Prizes, Awards: College of Agriculture and Life Sciences, Team Extension Award – Cornell Net Carbohydrate and Protein System

Current Program Work Teams/Program councils: I participate in college activities related to nutrient management on dairy farms, but have no official association because of my lack of extension appointment.

Extension/Outreach Workshops, Field Days, and Conferences: see conferences/workshops

Internet Presence/Distance Learning: Worked with companies to develop webinars related to nitrogen efficiency in lactating dairy cattle and the application of the CNCPS. Adisseo, Novus.
Have conducted webinars for many groups in the dairy industry – Calf and Heifer Growers Association, Church and Dwight, Co., Pfizer, Elanco, DAIReXNET, Hoards Dairyman, Dairy Herd Management. I have participated in many webinars for various groups and continue to do so at their request on topics ranging from colostrum management, early life calf management to amino acid requirements and fiber digestibility and nitrogen efficiency of high producing lactating cattle.

Policy Engagement: Worked with several organizations in Rome, Italy in an effort to help them recognize how current payment policies for milk were not benefiting or improving the profitability or sustainability of their dairy farms and dairy industry.

Further, at the request of the Dean, I have engaged the New York Governor's office and several other key political leaders on industry level decisions needed to help increase the milk supply in NY to support the growth in yogurt and other processing.

Key Audiences and Scope of Impact: My key audience is the dairy industry of the U.S. and other regions of the world. Impacts: changes in recommendations for feeding dairy calves and heifers around the world, 2) changing the manufacturing of milk replacers in North America, Japan and Europe, 3) challenging the nutrition industry of the U.S. through work investigating the nitrogen dynamics of the cow – resulting in less nitrogen being fed which reduces environmental impacts; 4) enhancing and updating the Cornell Net Carbohydrate and Protein System (CNCPS) – used by many hundreds of nutritionists around the world to improved nutrient supply to dairy and beef cattle – will reduce the environmental impact of dairy farms. The CNCPS, through the software developed by license holders is used to formulate diets for approximately 70% of the dairy cattle in North America and is used in over 40 countries around the world.

CONFERENCES/WORKSHOPS/INSERVICE

Benoit, A.C.; LaPierre, P.A.; Mechor, G.D.; Barbano, D.M.; **Van Amburgh, M.E.** 2021. Effect of Increasing Monensin Concentration on the Performance of Lactating Dairy Cows Fed Contemporary Diets. Proc. Cornell Nutr. Conference, Syracuse NY

Dozens of webinars, on a regional, national, and international basis over the last year. Too numerous to state.

LaPierre, P. A.; Luchini, D.; Ross, D. A.; **Van Amburgh, M. E.** 2019 Effects of Precision Essential Amino Acid Formulation on a Metabolizable Energy Basis for Lactating Dairy Cows. Proc. Cornell Nutr. Conf.
Syracuse, NY. (500 people)

Dineen, M.; McCarthy, B.; Dillon, P.; Fessenden, S.; LaPierre, P. A.; **Van Amburgh, M. E**. Evaluation and Development of the Cornell Net Carbohydrate and Protein System v.7 Using a Unique Pasture-Based Data Set. Proc. Cornell Nutr. Conf. Syracuse, NY. (500 people)

Van Amburgh, M.E. 2019. Optimizing the replacement dairy heifer for lifetime performance. Nantes, France. (300 people)

Van Amburgh, M. E. 2019. Improving milk production and heifer growth under Indian conditions – prioritizing resources and financial support. Tiptur, India (80 people)

Van Amburgh, M. E. 2019. Integration of energy and protein to predict amino acid requirements for lactating dairy cattle. CA Nutrition Conference, Visalia, Ca. (130 people)

Van Amburgh, M. E. 2019. Optimizing the replacement dairy heifer for lifetime performance. Mexican Holstein Association Annual Meeting, Queretero

Van Amburgh, M. E. 2019. Training sessions for the Cornell Net Carbohydrate and Protein System with support from NDS. Two locations in Chile, Santiago and Orsono. (280 people)

Van Amburgh, M. E. 2019. Early life nutrition and management of calves and effects on lifetime productivity. Smart Care Calf Conference, Guelph Ontario (200 people)

LaCount, S. **M. Van Amburgh**, T. R. Overton. 2018. Strategies to optimize dietary energy in fresh cow rations. Proc. Cornell Nutr. Conf., Syracuse, NY (500 people)

LaPierre, A. R. Higgs, **M. E. Van Amburgh.** 2018. Milk like a cow, eat like a pig: developments in nitrogen efficiency and amino acid balancing for lactating dairy cattle. Proc. Cornell Nutr. Conf. Syracuse, NY (500 people)

Van Amburgh, M. E. M. Dineen, P.A. LaPierre, J. Lawrence, A. Kerwin, T. R. Overton. 2018. Determination of the first limiting physical factors in corn silage hybrids: modeling multiple pools of ruminal aNDFom digestion. Proc. Cornell Nutr. Conf., Syracuse, NY. (500 people)

Van Amburgh, M. E. M. Dineen, P.A. LaPierre. 2018. Fiber digestibility, rumen function and modeling multiple pools of aNDFom digestion. Herd Health and Nutrition Conf. Syracuse, NY. (300 people)

Mike Van Amburgh, Debbie Ross, Sam Fessenden, Ryan Higgs, Marcelo Gutierrez-Botero, Larry Chase, Andres Ortega and Andrew LaPierre. 2018. Modeling and Integrating Metabolizable Energy and Protein Supply and Requirements in Dry and Lactating Dairy Cattle to Optimize Nitrogen Utilization. Canadian Animal Nutr. Conf. Edmonton, Canada. (200 people)

Van Amburgh, M. E. 2018. Development and evaluation of an assay to predict intestinal nitrogen digestibility in cattle. Four State Nutr. Conf. (400 people)

Van Amburgh, M. E. 2018. Communication from the Dam to the Calf
and Nutrient Requirements and Long-Term Impacts on Productivity of Dairy Calves and Heifers. Dairy Cattle Reproduction Council Proc. Indianapolis, IN. (200 people)

Van Amburgh, M. E. 2018. Role of colostrum and colostrum components in communicating to the calf. Central Plains Dairy Expo., Brookings, South Dakota. (100 people)

Van Amburgh, M. E. 2018.Optimizing early growth in dairy calves through colostrum, nutrition and management. Western Canadian Dairy Conference. Alberta, Canada (300 people)

Van Amburgh, M.E. 2018. Dairy heifer management, inventory and profitability. Delaware Co. Extension meetings. (40 people)

Van Amburgh, M.E. 2017. Dry and transition cow workshops in Wisconsin with the Professional Dairy Producers of Wisconsin. Two locations, 200 participants.

Van Amburgh, M.E. 2017. Cornell Cooperative Extension Inservice session on nitrogen and phosphorous excretion and environmental impact (20 participants)

Van Amburgh, M.E. 2017. Cornell Nutrition Conference Syracuse NY. Presentation on amino acid chemistry and nutrition. 500 participants.

Van Amburgh, M.E. 2017. Nutrition and CNCPS workshop in Hungary (180 participants)

Van Amburgh, M.E. 2017. Nutrition and CNCPS workshop in Chile (90 participants in two locations)
Van Amburgh, M.E. 2017. Nutrition and CNCPS workshop in England (150 participants)

Van Amburgh, M.E. 2017. Modeling/CNCPS seminar at TEAGASC, Moorepark, June (100 participants)

Van Amburgh, M.E. 2017. Webinars for Bayer Animal Health via Germany (40 participants)

Van Amburgh, M.E. 2017. ADSA Discover Conference on Heifers, Chicago (140 participants)

Van Amburgh, M.E. 2017. Nutrition and CNCPS workshop in Denmark for 4 days (20 participants)

Van Amburgh, M.E. 2017. One Health Panel and Conference in Hong Kong sponsored by Einaudi Center and Provost Office for International Affairs. (100 participants)

Van Amburgh, M.E. 2017. Western Dairy Management Conference, Reno, NV presented paper on calf health and nutrition. (1,200 participants)

Van Amburgh, M.E. 2017. Pacific Northwest Nutrition Conf. Washington. (120 participants)

Van Amburgh, M.E. 2015. Calf and heifer management and nutrition workshops in several locations around Ireland. (300 participants)

Zontini, A., A. Foskolos, D. A. Ross, J. Metcalf, P. H. Doane, and **M. E. Van Amburgh**. 2015
Research Update: formulating diets for lactating cattle using multiple pools of NDF digestibility. Pp. 189-198. Proc. Cornell Nutr. Conf. Syracuse, NY. (450 people)

Van Amburgh, M.E., A Foskolos and R. J. Higgs. 2015. Balancing diets with the CNCPS v6.5 – what's changed and implications for use. Pp. 115-124. Proc. Cornell Nutr. Conf. Syracuse, NY. (450 people)

Van Amburgh. M.E. 2015 Environmental considerations for calf and heifer management. Great Lakes Dairy Conference, Frankenmuth, MI. (300 people)

Van Amburgh. M.E. 2015. Early life nutrition of calves: What is mom communicating to the calf? World Dairy Expo, Madison WI. (300 people)

Van Amburgh, M.E. 2015. Calf and heifer management and long term productivity. Dairy Day in Cooperstown, NY and Balston Spa, NY.

Van Amburgh, M.E. 2015. Nitrogen efficiency and environmental impact of dairy cattle. Cargill Global Dairy Meeting. Amsterdam, Netherlands. (300 people)

Van Amburgh. M.E. 2015. Efficiency of use of Nitrogen in Dairy Cattle and updates to the CNCPS v6.5 and Implications for use. Mid-South Nutrition Conf. Dallas, TX. (200 people)

Van Amburgh, M. E. 2015. Webinar for AMTS, Cortland, NY. Updates and Application of the CNCPS v6.5.

Guiterrez-Botaro, M., A. Foskolos, D. A. Ross, and **M. E. Van Amburgh**. 2014. Balancing for intestinal nitrogen indigestibility in high producing lactating cattle: Ons step closer to feeding a cow like a pig? Pp. 140-147. Proc. Cornell Nutr. Conf. (400 participants)

Cotanch, K. W., R. J. Grant, **M. E. Van Amburgh**, A. Zontini, M. Fustini, A. Palmonari and A. Formigoni. 2014. Applications of uNDF in ration modeling and formulation. Pp 114-131. Proc. Cornell Nutr. Conf. (400 participants)

Van Amburgh, M. E. 2012. Webinar for Dairy Herd Management. Increasing Nitrogen Efficiency with Amino Acid Balancing in Lactating Cows. Recorded 11.27.12.

Russomanno, K. L., **M. E. Van Amburgh,** and R. J. Higgs. 2012**.** An Evaluation of Using ByProduct Feeds in Lactating Cow Diets on Greenhouse Gas Emissions Using CNCPS v6.1. Proc. Cornell Nutr. Conf. (350 participants)
Van Amburgh, M.E. 2012. Early life nutrition and management and long-term productivity of calves. Minnesota Nutr. Conf. **Owatonna, MN. (70 participants)**
Van Amburgh, M.E., L.E. Chase, T. R. Overton. 2012. CNCPS version 6.1 training and discussion session. Advanced Dairy Nutrition Training Course. Cornell University, Ithaca, NY.
(40 participants)

Van Amburgh, M.E., F. Soberon and D. Lopez. 2012. Role of colostrum components in supporting growth and feed efficiency. Advanced Dairy Nutrition Training Course. Cornell University, Ithaca, NY. (120 participants)

Higgs, R. J., L.E. Chase, D. A. Ross and **M.E. Van Amburgh**. 2012. Updates to the CNCPS feed library – derivation and application. Advanced Dairy Nutrition Training Course. Cornell University, Ithaca, NY. (120 participants)

Van Amburgh, M.E. and D.A. Ross. 2012. Intestinal digestibility determination and model inputs – methods and expectations. Advanced Dairy Nutrition Training Course. Cornell University, Ithaca, NY (120 participants)

Van Amburgh, M.E. and E. B. Recktenwald. 2012. Nitrogen recycling in dairy cows – opportunities for ruminal and whole-animal metabolism. Advanced Dairy Nutrition Training Course. Cornell University, Ithaca, NY (120 participants)

Van Amburgh, M.E. M. J. Thomas, A. Moser. 2012. Calf management round table discussion. Northeast Dairy Producers Conference. Syracuse, NY (500 participants)

Van Amburgh, M.E., F. Soberon, J. Karszes, and R.W. Everett. 2012. Management of calves and heifers that makes economic sense. Vermont Dairy Producers Conference. Burlington, VT. Feb. 14. (150 participants)

Van Amburgh, M.E., F. Soberon, J. Karszes, and R.W. Everett. 2012. Early life nutrition and management and long-term productivity of calves. Winter Dairy Management meeting. Feb. 13. Richfield Springs, NY. (60 participants)

Van Amburgh, M. E. 2012. Dairy nutrition training workshop, January 15-18. University of Milan School of Veterinary Medicine, Italy. Topics covering calf nutrition, nitrogen efficiency, NDF digestion, modeling, mammary protein synthesis, CNCPS feed library development, milk composition. In cooperation with Fabermatica, a license holder for the CNCPS intellectual property. (80 participants)

Van Amburgh, M.E. 2011. Comparison of predictions and discussion of differences in CNCPS, CPM Dairy and 2001 Dairy NRC models. Vita Plus Co., Madison WI. (30 participants)

Van Amburgh, M.E. 2011. Application of rates and extents of NDF and starch digestion in the CNCPS and related models. Workshop for Cows Come First/Novus, International, Co. Erie, PA. (12 participants)

Van Amburgh, M.E., F. Soberon, J. Karszes, and R.W. Everett. 2011. Early life nutrition and management and long-term productivity of calves. Group Housed Calf Conference. Dec. 1. Syracuse, NY. (270 participants)

Soberon, F. and **M. E. Van Amburgh.** 2011. Integrating concepts of pre-pubertal mammary development and rates of body growth to describe differences in first lactation milk yield. Proc. Cornell Nutr. Conf. Pp. 75-85. Syracuse, NY. (400 participants)

Van Amburgh, M.E., F. Soberon, E. Raffrenato, J. Karszes, and R.W. Everett. 2011. Early life nutrition and management and long-term productivity of calves. Dairy Seminar Section. Amer. Assoc. Bovine Pract. St. Louis, MO (200 participants)

Van Amburgh, M. E. 2011. Preconference seminar on calf and heifer management and nutrition training. Amer. Assoc. Bovine Pract. St. Louis, MO (32 participants)

Van Amburgh, M. E. 2011. Nitrogen efficiency and metabolism, NDF digestibility and the future of CNCPS. Agricultural Modeling and Training Systems training workshop for nutrition software. Ithaca, NY. (50 participants)

Van Amburgh, M. E. 2011. Forage digestibility, income over feed costs and how to survive in today's economic climate. Dairy Nutrition and Management workshop. Ragusa, Italy. (50 participants)

Van Amburgh, M. E. 2011. Nutrition workshop with University of Parma and Consorzio Agrario Parma. Parma, Italy. (30 participants).

Van Amburgh, M. E. 2011. Forage digestibility, income over feed costs and how to survive in today's economic climate. Dairy Nutrition and Management workshop. Potenza, Italy. (34 participants)

Van Amburgh, M. E. 2011. Dairy nutrition training workshop, June 28-30, Reggio Emilia, Italy. Topics covering calf nutrition, nitrogen efficiency, NDF digestion, modeling, mammary protein synthesis, CNCPS/NDS feed library development. In cooperation with RUM&N, a license holder for the CNCPS intellectual property. (70 participants)

Van Amburgh, M. E. 2011. Balancing for amino acids in lactating dairy cattle using dynamic models. Workshop for Vetagro. Reggio-Emilia, Italy (12 participants from Europe)

Van Amburgh, M. E. 2011. Nitrogen efficient diets in lactating cattle. Basic Dairy Nutrition Training course, Miner Inst. Chazy, NY. (60 participants)

Van Amburgh, M. E. 2011. Calf and heifer nutrition and management. Basic Dairy Nutrition Training course, Miner Inst. Chazy, NY. (60 participants)

Van Amburgh, M. E. 2011. Training session for CNCPS. Basic Dairy Nutrition Training course, Miner Inst. Chazy, NY. (17 participants)

Van Amburgh, M. E. 2011. Optimizing Dairy Performance with Amino Acid Balancing using the CNCPS. Webinar for Church and Dwight, Co.

F. Soberon and **M. E. Van Amburgh.** 2011. Preconference workshop on calf nutrition and management. Minnesota Dairy Health Conference for Veterinarians. (110 participants)

Van Amburgh, M. E. 2011. Back to Basics: Health & Economics of Accelerated Heifer Growth. Webinar for Dairy Calf and Heifer Association. June 7. (over 120 participants – largest webinar for this group – archived for later download).

Van Amburgh, M. E. 2011. Nitrogen efficiency in lactating cattle and balancing diets with the CNCPS. Four State Nutrition Conf. workshop. (35 participants)

Van Amburgh, M. E. 2011. Taking the long view: treat them nice as babies and they will be better adults. Western Dairy Management Conf. Reno, NV. (1,500 participants)

Van Amburgh, M. E. 2011. Early Life nutrition and Impacts on Future Performance. Herd Health Symposium. Manchester, NH. (90 participants)

Van Amburgh, M. E. 2011. Early Life nutrition and Impacts on Future Performance. Herd Health Symposium. Syracuse, NY (120 participants)

Van Amburgh, M. E. 2011. Early life nutrition and impacts on productivity. Webcast for Pfizer Animal Health.

Van Amburgh, M. E. 2011. CNCPS version 6.1 training and discussion session. Advanced Dairy Nutrition and Management School. Visalia, CA. (52 participants – 1.2 M cows)

Van Amburgh, M. E. 2011. Implications of early life nutrition and management on long-term performance. Advanced Dairy Nutrition and Management School. Visalia, CA. (52 participants – 1.2 M cows)

Grant R. J. and **Van Amburgh, M. E.** 2011. Current concepts in peNDF, NDF digestibility, and fragility. Advanced Dairy Nutrition and Management School. Visalia, CA. (52 participants – 1.2 M cows)

Van Amburgh, M. E. 2011. Nitrogen recycling and metabolism – ruminal and whole-animal opportunities. Advanced Dairy Nutrition and Management School. Visalia, CA. (52 participants – 1.2 M cows)

Van Amburgh, M. E. and T. R. Overton. 2010. Current and future threats to food production and especially dairy production in the Northeastern U.S., Jefferson-Lewis County NY Farm Bureau Annual Meeting. (80 participants)

Van Amburgh, M. E. 2010. Calf and heifer management and nutrition for lifetime productivity. Shurgain Nutrition meeting, Stratford, Ontario, Canada (100 participants)

Van Amburgh, M. E. 2010. Updates to the Cornell Net Carbohydrate and Protein System. Penn State Nutr. Conf. and Workshop. Grantville, PA. (60 participants)

Van Amburgh, M. E., E.B. Recktenwald, D.A. Ross, L. E. Chase, and T. R. Overton 2010. Updates to the Cornell Net Carbohydrate and Protein System. Proc. Cornell Nutr. Conf. Pp. (350 participants)

Raffrenato, E. and **M. E. Van Amburgh**. 2010. Refinement of the Estimation of NDF Pool Size and Implications for Intake. Proc. Cornell Nutr. Conf. (350 participants)

Van Amburgh, M. E. 2010. Calf and heifer management and nutrition for lifetime productivity. Dairy Business Working group, meeting at Cornell University. (40 participants)

Van Amburgh, M. E. 2010. Preconference workshop on milk composition, Amer. Assoc. Bovine Pract., Albuquerque, NM. (30 participants)

Van Amburgh, M. E. 2010. Preconference seminar on calf and heifer management and nutrition training. Amer. Assoc. Bovine Pract. Albuquerque, NM. (26 participants)

Van Amburgh, M. E. 2010. Preconference workshop: Understanding feed analyses and composition for use in ration formulation models. Amer. Assoc. Bovine Practitioners, Albuquerque, NM. (22 participants)

Van Amburgh, M. E. 2010. Dairy Profit Seminars at Empire Farm Days, Calf management panel discussion. Seneca Falls, NY. (80 participants)

Van Amburgh, M. E. 2010. Calf management meeting and discussion group. Cornell Coop. Extension, Homer, NY. (30 participants)

Van Amburgh, M. E. and T. R. Overton. 2010. Current and future threats to food production and especially dairy production in the Northeastern U.S., Northeastern Branch of the Crop, Soil and Agronomy Societies of America, Ithaca, NY (Invited) (60 participants)

Van Amburgh, M.E. 2010. Adapting the CNCPS as a platform for nutrient requirements in the Chinese Dairy Industry. Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing.

Van Amburgh, M.E. 2010. Improving the efficiency of milk production in China; foundations for ration formulation and implementation in the Chinese Dairy Industry. Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing

Van Amburgh, M. E. 2010. Improving nitrogen efficiencies in lactating dairy cattle. Novus International Nutrition Workshop, Bluff Point, NY (70 participants)

Van Amburgh, M. E. 2010. Organized five day workshop for 35 Italian nutritionists at Cornell University in collaboration with our Advanced Dairy Nutrition Training Course. The nutritionists all use NDS software, which is a licensed version of the CNCPS, thus it was an extension of our modeling efforts.

Van Amburgh, M. E. 2010. Calf and heifer management and nutrition for lifetime productivity. Nitrogen recycling in dairy cattle. Advanced Nutrition Training Course, Cornell University, Ithaca, NY. (120 participants)

Van Amburgh, M. E. 2010. Improving nitrogen efficiencies in lactating dairy cattle. Cargill Technical Meeting, Clark Summit, PA (120 participants)

Van Amburgh, M. E. 2009. Corn silage digestibility and rates of degradation and implications for hybrid selection. Growmark FS, LLC Annual meetings, Grantville, PA and Rochester, NY (130 participants)

Van Amburgh, M. E. 2009. Series of workshops in Northern Italy, dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Verona, Padua and Cremona, Italy. Sponsored by Pioneer Hybrids International. (300 participants)

Chase, L. E., R. J. Higgs, and **M. E. Van Amburgh.** 2009. Feeding low crude protein rations to dairy cows – opportunities and challenges. Proc. Cornell Nutr. Conf. Pp. 235-241.

Raffrenato, R. Fievsiohn, K. W. Cotanch, R. J. Grant, P. J. Van Soest, L. E. Chase and **M. E. Van Amburgh**. 2009. aNDF, NDFd, iNDF, ADL and kd: what have we learned. Proc. Cornell Nutr. Conf. Pp 81-98. Syracuse, NY (400 participants)

Recktenwald, E. B. and **M. E. Van Amburgh.** 2009. Refining nitrogen feeding using current knowledge of recycled urea and microbial nitrogen uptake. Proc. Cornell Nutr. Conf. Pp. 69-80. Syracuse, NY (400 participants)

Van Amburgh, M. E. 2009. Understanding nitrogen metabolism and recycling in dairy cattle: opportunities for improved efficiencies. Cargill Animal Nutrition and Elanco Animal Health Conf., Minneapolis, MN. (45 participants)

Van Amburgh, M. E. 2009. Nitrogen efficiency and opportunities for lowering crude protein feeding in lactating dairy cows. Novus International, Advisory Committee meeting, St. Louis, MO. (25 participants)

Van Amburgh, M. E. 2009. Early life calf management and nutrition: impacts on lifetime productivity. Land O'Lakes Veterinary Conference, St. Louis, MO. (60 participants)

Van Amburgh, M. E., 2009. Calf and heifer management for lifetime productivity. WI Veterinary Medical Association Annual Meeting, Madison, WI. Invited talk. (120 participants)

Van Amburgh, M. E. 2009. Preconference seminar on milk composition, American Association of Bovine Practitioners, Omaha, NE.

Van Amburgh, M. E. 2009. Calf and heifer management and nutrition training. Preconference session, Amer. Assoc. Bovine Pract. Omaha, NE.

Van Amburgh, M. E. 2009. Calf and heifer management and nutrition training. Basic Nutrition Training Course, Miner Institute, Chazy, NY. (60 participants)

Van Amburgh, M. E. 2009. Dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Reggio Emilia, Italy (80 participants, four day workshop)

Van Amburgh, M. E. 2009. Improving feeding and management of Dairy Cattle – enhancing efficiencies to improve profitability. Consorzio Agrario Cremona, Cremono, Italy (110 participants)

Van Amburgh, ME. 2009. Developing progressive nutrition and management programs for calves and heifers. Summer Dairy Institute, Cornell University College of Veterinary Medicine. (30 participants)

Van Amburgh, M.E. 2009. Early life calf management and nutrition: impacts on lifetime productivity. First International Symposium on Dairy Cow Nutrition and Milk Quality. Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing (500 participants)

Van Amburgh, M. E. 2009. Calf and heifer management programs to optimize lifetime profitability. King's Agriseeds, Ovid, NY (70 participants)

Van Amburgh, M. E., F. Soberon, E. Raffrenato, and R. W. Everett. 2009. Early life nutrient management and long-term productivity of calves. Florida Ruminant Nutrition Symposium, Gainesville, FL (130 participants)

Van Amburgh, M. E. 2009. Early life management and long-term productivity in calves. Pennfield Feeds, Lancaster, PA. (120 participants)

Van Amburgh, M. E. 2009. Calf and heifer management to enhance lifetime productivity. Owego, NY (70 attendees)

Van Amburgh, M. E. 2008. Calf and heifer management for enhanced lifetime productivity, transition cow programs and fiber digestibility and intake. Servizio Aziendale Tecnico Allevatori (S.A.T.A.) Conference, Garda, Italy. (120 attendees)

Van Amburgh, M. E., J. L Capper, G. D Mechor, and D. E. Bauman. 2008**.** Rumensin and milk fat production. Proc. Cornell Nutr. Conf. Pp. 99-112. (350 participants)

Van Amburgh, M. E., E. Raffreanto, and F. Soberon. 2008**.** Early life management and long-term productivity of dairy calves. Proc. Cornell Nutr. Conf. Pp. 185-192. (350 participants)

Van Amburgh, M.E. 2008. Nutrient requirements and management of calves and heifers. American Assoc. of Bovine Practitioners. Annual Meeting, Charlotte, NC (30 participants)

Van Amburgh, M. E. 2008. Calf and heifer nutrition and management. Nitrogen dynamics in lactating dairy cattle. Advanced Dairy Nutrition Training, Cornell University. (60 participants)

Van Amburgh, ME. 2008. Developing progressive nutrition and management programs for calves and heifers. Summer Dairy Institute, Cornell University College of Veterinary Medicine. (30 participants)

Van Amburgh, M. E. 2008**.** Protein and amino acid nutrition of dairy cattle and dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Bucknell Nutrition Conference, Lewisburg, PA (110 participants)

Van Amburgh, M. E. 2008**.** Nitrogen recycling and efficiency of use in lactating dairy cattle and application to the Cornell Net Carbohydrate and Protein System. Pennfield Feeds Nutrition Training Course. Williamsport, PA (70 participants)

Van Amburgh, M. E. 2008. Dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. University of Parma, Italy (80 participants)

Van Amburgh, M. E. 2008. Protein and amino acid nutrition of dairy cattle and dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Consorzio Agrario di Parma, Parma, Italy (20 participants)

Van Amburgh, M. E. 2008. Calf and heifer management, mammary development, implications of early life nutrition on long term management. Dairy Health Management Certificate Program, College of Veterninary Medicine, University of Guelph, Guelph, Ontario, Canada (60 participants)

Van Amburgh, M. E. 2008. Effect of Early Life Nutrient Intake on Long-Term Productivity of Calves. Proc. Southwest Nutrition Conf. Phoenix, AZ. (300 participants)

Van Amburgh, M. E., J. Mills, D. Waterman. 2008. Nutrition and nutritional management of calves and heifers. Winter Dairy Management School. Nine seperate meetings over several weeks. Pro-Dairy, Cornell University. (>400 participants)

Van Amburgh, M. E., J. A. Capper, D. E. Bauman. 2008. A Perspective on the Environmental Impact of the Dairy Industry – Issues and Progress. Northeast Dairy Producers Conf. Syracuse, NY. (500 participants)

Van Amburgh, M. E. 2008. Biology of the calf and heifer: nutrient requirements, mammary develop and long term productivity. Dairy Production Medicine Seminar, UC Davis School of Veterinary Medicine, Tulare, Ca. (60 participants)

Van Amburgh, M. E., E. B. Recketenwald, D. A. Ross, T. R. Overton and L. E. Chase. 2007. Improving the efficiency of use of nitrogen in lactating dairy cattle: Revisiting the CNCPS approach. Proc. Cornell Nutrition Conf. Syracuse, NY (370 participants).

Van Amburgh, M. E. 2007. Dairy Cattle Nutrition Symposium, University of Bologna, Italy (65 participants)

Van Amburgh, M. E. 2007**.** Dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Bologna, Italy (50 participants)

Van Amburgh, M. E. 2007**.** Dairy Cattle Nutrition Symposium – Forage digestibility, University of Parma School of Veterinary Medicine, Parma, Italy. 140 participants

Van Amburgh, M. E. 2007**.** Dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Consorzio Agrario di Parma, Parma, Italy (15 participants)

Van Amburgh, M. E. 2007. Dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System, Standard Nutrition, Wisconsin (65 participants)

Van Amburgh, M.E. 2007. Calf and heifer nutrition and management. National Federation of Dairy Cooperative Associations and Zenrakuren. Tokyo, Japan. Seven sites throughout Japan. >1,000 participants.

Van Amburgh, M.E. 2007. Calf and heifer nutrition and management. Hoards Dairyman Mexico, Puerto Vallarta, Mexico (200 participants)

Van Amburgh, M. E. 2007. Calf and heifer nutrition and management. Delmarva Dairy Days. Delaware Extension Program, Harrington, DE. (50 participants)

Van Amburgh, ME. 2007. Developing progressive nutrition and management programs for calf and heifer growers. Summer Dairy Institute, Cornell University College of Veterinary Medicine. (30 participants).

Van Amburgh, M.E. and E. B. Recktenwald. 2006. Nitrogen efficiency in lactating dairy cattle. Proc. Cornell Nutrition Conf. Pp. 205-218. Syracuse, NY. (350 participants)

Van Amburgh, ME. 2006. Invited Speaker – Understanding mammary development in the pre-pubertal heifer and scientific roundtable discussions. University of British Columbia Animal Behavior and Research Unit – Official Opening (150 participants)

Van Amburgh, ME. 2006. Developing progressive nutrition and management programs for calf and heifer growers. Summer Dairy Institute, Cornell University College of Veterinary Medicine. (30 participants).

Van Amburgh, ME. 2006. Advanced Nutrition Training course, Cornell University Department of Animal Science. (100 participants)

Van Amburgh, ME. 2006. Dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Crema, Italy (30 participants)

Van Amburgh, ME. 2006. Dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Parma, Italy (35 participants)

Van Amburgh, ME. 2006. Dairy cattle nutrition training for the Cornell Net Carbohydrate and Protein System. Messina, Italy (15 participants)

Van Amburgh, ME. 2006. Forage digestibility and dairy cattle performance. University of Parma School of Veterinary Medicine, Parma, Italy (300 participants)

Van Amburgh, ME. 2006. Developing progressive nutrition and management programs for calf and heifer growers. Professional Dairy Heifer Growers Association Annual Meeting Proceedings, Visalia CA (500 participants)

Van Amburgh, ME. 2006. Forage digestibility – what should we expect from improved digestibility. Ruminant Health and Nutrition Conference, Syracuse NY and Manchester, NH (300 participants)

Van Amburgh, ME. 2006. Developing progressive nutrition and management programs for calf and heifer growers. Aguascalientes, Mexico (150 participants)

Van Amburgh, M. E. 2005. Calf and Heifer growth and management. Fall Dairy Conference. "Growing Your Assets". Pro-Dairy, Cornell University. Auburn, NY. 200 participants

Van Amburgh, M. E., T. R. Overton, L. E. Chase and E. B. Peterson. 2005. Protein requirements of lactating dairy cattle: a case study approach. Proc. Cornell Nutr. Conf. Pp. 213-221. Syracuse, NY. (350 participants from the U.S. and foreign countries.)

Van Soest, P.J., **M. E. Van Amburgh**, J. B Robertson, and W. F. Knaus. 2005. Validation of the 2.4 times lignin factor for ultimate extent of NDF digestion, and curve peeling rate of fermentation curves into pools. Proc. Cornell Nutr. Conf. Pp. 139 – 149. Syracuse, NY. (350 participants from the U.S. and foreign countries).

Lock, A. L., K. J. Harvatine, I. Ipharraguerre, **M. Van Amburgh**, J. K. Drackley and D. E. Bauman. 2005. The dynamics of fat digestion in lactating dairy cows: what does the literature tell us? Proc. Cornell Nutr. Conf. Pp. 83-94. Syracuse, NY. (350 participants from the U.S. and foreign countries).

Van Amburgh, M. E. 2005. Mammary development, calf nutrition and future production. World Dairy Expo Seminar, Madison, WI. Oct. 6th. 200 people. (Invited)

Van Amburgh, M. E. 2005. The Replacement heifer from birth to Calving: part II.Pre conference symposium for American Association of Bovine Practitioners. Salt Lake City, Utah. Sept. 20-21st. 30 participants.

Van Amburgh, M.E. 2005. Dairy One Cooperative – science update – what's new with the CNCPS and forage chemistry. Sept. 28th, Ithaca, NY

Bell, A. W. and **M. E. Van Amburgh**. 2005. Pregnancy and Post-Natal Requirements. 11th Annual Discover Conference on Food Animal Agriculture: Amino Acid Requirements of Dairy Cows. Presented part of the section on post-natal amino acid requirements for growth. (Invited)
~120 participants

Van Amburgh, M. E. 2005. Nutrition of the Dairy Cow Workshop Series. CoRFiLaC. June 5-11. Ragusa, Sicily. 100 participants from Italy and Europe. (Invited)

Van Amburgh, M. E. and M. J. Meyers. 2005. Mammary development and milk yield potential. Professional Heifer Growers Association National Meeting. Sioux Falls, SD. (Invited)
200 participants.

Van Amburgh, M. E. 2005. Coordinated a round-table discussion of calf raisers from around the country – presented twice. Western Dairy Management Conf., Reno, NV. ~2,000 conference participants. (Invited)

Drackley, J. K. and **M. E. Van Amburgh.** 2005. Nutrient requirements of the calf: Birth to weaning. Proc. Dairy Calves and Heifers Conference. Pp. 86-95. Syracuse, NY. Natural Resource, Agriculture and Engineering Service (NRAES) Publication 175, Cooperative Ext. Ithaca, NY. 300 participants

Van Amburgh, M. E. and M. J. Meyers. 2005. Target growth and nutrient requirements of post-weaned dairy heifers. Proc. Dairy Calves and Heifers Conference. Pp. 128-138. Syracuse, NY. Natural Resource, Agriculture and Engineering Service (NRAES) Publication 175, Cooperative Ext. Ithaca, NY. 300 participants

Meyers, M. J. and **M. E. Van Amburgh**. 2005. Exploring the link between prepubertal mammary development and future milk yield. Proc. Dairy Calves and Heifers Conference. Pp. 54-65. Syracuse, NY. Natural Resource, Agriculture and Engineering Service (NRAES) Publication 175, Cooperative Ext. Ithaca, NY. 300 participants

Van Amburgh, M. E. 2005. Calf and heifer nutrition, management and biology lectures and workshops in Japan. January 8 – 18. Over 1,000 participants. Nutrition professionals, dairy farmers, academics in 8 locations around the country. (Invited)

Van Amburgh, M.E. 2005. Winter Dairy Management Series. "Internal Herd Growth" Richfield Springs, Cortland, February to March. Dairy Extension Meetings. Speaker. >300 participants.

Meyer, M.J., R.W. Everett, and **M.E. Van Amburgh**. 2004. Reduced age at first calving: Effects on lifetime production, longevity, and profitability. Proc of 3rd Annual Arizona Dairy Producers Conference. Pp. 41-55. Tempe, AZ
Meyer, M.J., R.W. Everett, and **M.E. Van Amburgh**. 2004. Reduced age at first calving: Effects on lifetime production, longevity, and profitability. Proc of Kansas Dairy Producers Conference. Pp. 41-55. Two locations in Kansas.

Meyer, M.J., A.V. Capuco, D.A. Ross, A. Hummel, and **M.E. Van Amburgh**. 2004. Prepubertal Mammary Development in the Bovine: Influence of Nutrition and Age at Puberty. Proc. Cornell Nutr. Conf. Pp. 77-96. Syracuse, NY.

Van Amburgh, M.E., J.B. Robertson, E. B Peterson, and R. J. Grant. 2004. Corn Silage: Rates, Extents and Integration. Proc. Cornell Nutr. Conf. Pp. 1-9. Syracuse, NY.

Van Amburgh, M.E. and E. B. Peterson. 2004. How much nitrogen can a cow recycle? Proc. Cornell Nutr. Conf. Pp. 179-188. Syracuse, NY.

Meyer, M.J., D.A. Ross, D.E. Shaw, and **M.E. Van Amburgh**. 2004. Effect of elevated nutrient intake initiated early in life on components of gain in Holstein heifers**.** Alltech Conference, Lexington, KY. Poster presentation.

Van Amburgh, M.E. 2004. Integrating calf and heifer requirements with herd management and target growth**.** Proc. Mid-South Nutr. Conf. Arlington, TX

Van Amburgh, M.E. and J. K. Drackley. 2004. Current perspectives on the nutrient requirements of preweaned calves. Proc. Easter School, Univ. of Nottingham, England

Van Amburgh, M.E. 2004. Intensive feeding, target growth lactation milk yield and economics of heifers. Proc. 8th National Dairy Calf and Heifer Conf., Roanoke, VA.

Van Amburgh, M. E. 2004. Integrating calf and heifer requirements with herd management and target growth**.** January. UK Milk Development Council, Seminar Series, Melton Mowbray, England

Van Amburgh, M. E. 2004. Integrating calf and heifer requirements with herd management and target growth**.** January. UK Milk Development Council, Seminar Series, Caernarfon, Gwynedd, Wales
Van Amburgh, M. E. 2004. Integrating calf and heifer requirements with herd management and target growth**.** January. UK Milk Development Council, Seminar Series, Hereford, England

Van Amburgh, M. E. 2004. Integrating calf and heifer requirements with herd management and target growth**.** January. UK Milk Development Council, Seminar Series, Welshpool, England

Van Amburgh, M. E. 2004. Integrating calf and heifer requirements with herd management and target growth**.** January. UK Milk Development Council, Seminar Series, Diss, England

Van Amburgh, M.E., P.J. Van Soest, J. B. Robertson and W. F. Knaus. 2003. Corn silage neutral detergent fiber: refining a mathematical approach for in vitro rate of digestion. Pp. 99-108. Proc. Cornell Nutrition Conf., Syracuse, NY.

VanAmburgh, M. E. 2003. Young Dairy Calf Management – Seminar 4. Co-instructor. American Association of Bovine Practioners Meeting. Columbus, OH.

Van Amburgh, M. E. 2003. Nutrition of the Dairy Cow Workshop Series. CoRFiLaC June 1-6. Ragusa, Sicily

Van Amburgh, M.E. 2003. Growth and Development of Calves. Western Dairy Management Conference, Reno, CA.

Van Amburgh, M.E. 2003. Nutrient Requirements of Calves. Southwest Nutrition Conference, Phoenix, AZ.

Van Amburgh, M.E. 2003. Growth and Development of Calves. Tulare Farm Show, Tulare, CA.

Van Amburgh, M. E. 2003. Integrating calf and heifer requirements with herd management and target growth**.** March. Royal Agricultural College. Cirencester, England

Van Amburgh, M. E. 2003. Integrating calf and heifer requirements with herd management and target growth**.** March**.** UK Milk Development Council Seminar Series, Worcester, England

Van Amburgh, M. E. 2003. Integrating calf and heifer requirements with herd management and target growth**.** March. Straights Feeders Group Dairy Consortium, Worcester, England

Van Amburgh, M.E. 2002**.** A systematic approach to heifer nutrition and management: The target growth system. Winter Dairy Management Meetings. Cornell Cooperative Extension. Saratoga, NY.

Van Amburgh, M.E. 2002**.** A systematic approach to heifer nutrition and management: The target growth system. Winter Dairy Management Meetings. Cornell Cooperative Extension. Chazy, NY.

Van Amburgh, M.E. 2002**.** A systematic approach to heifer nutrition and management: The target growth system. Winter Dairy Management Meetings. Cornell Cooperative Extension. Watertown, NY.

Van Amburgh, M.E. 2002**.** Growth and development of calves. Seminar, South Dakota State University, Brookings, South Dakota.

Van Amburgh, M.E. 2002**.** Growth and development of calves. LOL Calf Seminar. Lincoln, Nebraska.

Van Amburgh, M.E. 2002**.** Growth and development of calves. LOL Calf Seminar. Madison, WI. **Van**

Amburgh, M.E. 2002**.** Growth and development of calves. LOL Calf Seminar. Winona, MN. **Van Amburgh,**

M.E. 2002**.** Growth and development of calves. LOL Calf Seminar. Rochester, MN

Van Amburgh, M.E. 2002**.** Growth and development of calves. LOL Calf Seminar. Guelph, Ontario, Canada.

Van Amburgh, M.E. 2002**.** Growth and development of calves. LOL Calf Seminar. Woodstock, Ontario, Canada.

Van Amburgh, M.E. 2002**.** Growth and development of calves. LOL Calf Seminar. Listowel, Ontario, Canada.

Van Amburgh, M.E. 2002**.** Growth and development of calves. LOL Calf Seminar. Formosa, Ontario, Canada

Van Amburgh, M. E. 2002**.** Calf and heifer management strategies. Inservice for Dairy Agents, Cornell Cooperative Extension/Pro-Dairy.

Van Amburgh, M.E. 2002**.** A systematic approach to heifer nutrition and management: The target growth system. Advanced Dairy Nutrition Training Course for Agribusiness Professionals. Ithaca, NY.

Van Amburgh, M.E. 2002**.** The calculation of metabolizable energy and protein supply in the Cornell Net Carbohydrate and Protein System – effects of forage digestibility and rates. Advanced Dairy Nutrition Training Course for Agribusiness Professionals. Ithaca, NY.

Smith, J. M. and **M. E. VanAmburgh**. 2002. Effect of feeding conjugated linoleic acid and other fatty acids during the prepubertal period on the composition of growth and lactation yield of Holstein heifers**.** Pp. 159-173. Proc. Cornell Nutr. Conf.

Van Amburgh, M.E. 2002**.** Nutrition and management of calf and heifer programs. Summer Session Class for students at Miner Institute, Chazy, NY.

Van Amburgh, M.E. 2002**.** Nutrient requirements of calves and heifers, and a systematic approach to heifer nutrition and management: the target growth system. Pro-Dairy Australia, Warragul, Australia

Van Amburgh, M.E. 2002**.** Nutrient requirements of calves and heifers, and a systematic approach to heifer nutrition and management: the target growth system. Pro-Dairy Australia, Warrnambool, Australia

Van Amburgh, M.E. 2002**.** Nutrient requirements of calves and heifers, and a systematic approach to heifer nutrition and management: the target growth system. Pro-Dairy Australia, Shepparton, Australia

Van Amburgh, M.E. 2002**.** Nutrient requirements of calves and heifers, and a systematic approach to heifer nutrition and management: the target growth system. Pro-Dairy Australia, Beaudesert, Australia

Marini, J. C. and **M. E. Van Amburgh.** 2001 Effect of dietary protein intake on nitrogen metabolism of Holstein heifers. Pp. 198-208. Proc. Cornell Nutr. Conf.

Van Amburgh, M.E., J.N Tikofsky, L.O. Tedeschi, J.M. Smith and J.K. Drackley. 2001. Requirements for growth of Holstein calves and evaluation of current feeding systems. Pp. 46-55. Proc. Cornell Nutr. Conf.

Van Amburgh, M., J. Tikofsky and J. Smith. 2001. Requirements for and Regulation of Growth of Holstein Calves. Pp. 11-30. Renaissance Nutrition Conference, Bucknell University. July, 2001. Lewisburg, PA

Van Amburgh, M., J. Tikofsky, and J. Smith. 2001. Requirements for and Regulation of Growth of Holstein Calves – Implications for Decreasing Age at First Calving. Pp 113-132. Proceedings Tri-State Nutrition Conference, Ft. Wayne, IN.

Van Amburgh, M. and J. Tikofsky. 2001. The Advantages of "Accelerated Growth" in Heifer Rearing. Pp. 79-97. Proceedings of the Western Canadian Dairy Seminar, Red Deer, Alberta, Canada, March 13-16th. Univ. of Alberta, Dept. of Animal Science

Fox, D. G., T. P. Tylutki, K. J. Czymmek, **M. E. Van Amburgh*,** C.N. Rasmussen, and V. M. Durbal. 2001. Nutrient Management on Dairy farms - Development and application of the Cornell University Nutrient Management Planning System – a Case Study. Pp. 283-294. Proceedings of the Western Canadian Dairy Seminar, Red Deer, Alberta, Canada, March 13-16th. Univ. of Alberta, Dept. of Animal Science. (*presented paper)

Van Amburgh, M., J. Tikofsky and J. Smith. 2001. Requirements for and Regulation of Growth of Holstein Calves. Pp. 1-13. Proceedings Ruminant Health Conference, Syracuse, NY. NY State Veterinary Medical Society.

Van Amburgh, M., J. Tikofsky and J. Smith. 2001. Requirements for and Regulation of Growth of Holstein Calves. Proceedings Winter Dairy Management Meetings. Animal Science Mimeo.

Van Amburgh, M., J. Tikofsky and J. Smith. 2001. Requirements for and Regulation of Growth of Holstein Calves. Proceedings Virginia State Feed Manufacturers Annual Meeting. Williamsburg, VA.

Tikofsky, J.N. and **M. E. Van Amburgh**. 2000. Effect of varying carbohydrate and fat content of the diet on body composition of milk fed calves. Pp. 239-250. Proc. Cornell Nutr. Conf.

Van Soest, P. J., **M. E. Van Amburgh**, L. Tedschi. 2000. The problem of declining rate of cell wall degradation with time. Pp. 150-166. Proc. Cornell Nutr. Conf.

Boisclair, Y. R., R. A. Ehrhardt, S. S. Block, R. M. Slepetis, **M. E. Van Amburgh** and A. W. Bell. 2000. What is leptin and what role might it play in ruminant metabolism? Pp. 72-80. Proc. Cornell Nutr. Conf.

Van Amburgh, M.E. 2000**.** Nutrition and management of calf and heifer programs. Summer Session Class for students at Miner Institute, Chazy, NY.

Van Amburgh, M. E., J. E. Voorhees, and J. B. Robertson. 1999. Total dietary fiber content of selected ruminant feeds. Pp. 196-202. Proc. Cornell Nutr. Conf., Rochester, NY.

Diaz, M. C., J. M. Smith and **M.E. Van Amburgh**. 1998. Nutrient requirements and management of the milk fed calf. Pp. 130-141. Proc. Cornell Nutr. Conf., Rochester, NY.

Smith, J. M., M. C. Diaz, **M. E. Van Amburgh**, D. E. Bauman and M. C. Lucy. 1998. Ontogeny of the somatotropic axis in milk-fed bull calves between birth and 105 kg. Pp. 119-129. Proc. Cornell Nutr. Conf., Rochester, NY.

Fox, D.G., Chase, L.E., Pell, A.N., Pitt, R.E., and **Van Amburgh, M.E.** 1998. The Cornell Net Carbohydrate and Protein System: a model to predict cattle nutrient requirements under widely varying conditions. Conference on Interdisciplinary Modeling. Banff, Canada.

Van Amburgh, M. E. 1998. Nutrient requirements and mammary development of the dairy heifer. Heifer Management Conference. Syracuse, NY. Sponsored by Cargill, Inc.

Van Amburgh, M. E. 1998. Accelerated heifer growth: Nutrient requirements and effects on lactation and profitability. Continuing Education Program. Cornell University Veterinary School Annual Meeting.

Van Amburgh, M. E. 1998. Accelerated heifer growth: Nutrient requirements and effects on lactation and profitability. Proceedings of the Maryland Nutrition Conference for Feed Manufacturers, Baltimore, MD.

Van Amburgh, M.E. 1998. Accelerated heifer growth: Nutrient requirements and effects on lactation and profitability. Proceedings of the Southwest Nutrition & Management Conference, Phoenix, AZ.

Van Amburgh, M. E. 1998. Development of nutrient requirements for the young dairy heifer. Western NY Calf Growers. Batavia, NY.

Van Amburgh, M. E. 1998. Why New York dairy students are interested in the Italian cheese manufacturing process and how they may find application in the Northeast U.S. University of Catania, Ragusa, Sicily, Italy.

Van Amburgh, M.E. 1997. Nutrition and Development of the Dairy Heifer. Protiva Science Symposium, New Orleans, LA.

Van Amburgh, M.E. 1997. Use of the Cornell Net Carbohydrate and Protein System for developing rations for optimum growth of Holstein heifers. Proceedings Western Section ARPAS Continuing Education Seminar. Harris Ranch, CA.

Van Amburgh, M.E. 1997. Efffect of ionophores on growth and lactation in cattle. Proceedings of Cornell Nutrition Conference. Pp.

Galton, D.M., R.W. Everett, **M.E. Van Amburgh**, D.E. Bauman, and W.A. Knoblauch. 1997. Extended calving intervals with use of bST. Proceedings Western Dairy Management Conference, Las Vegas, NV.

Van Amburgh, M. E., Galton, D. M., Everett, R. W., Bauman, D. E., and Knoblauch, W. A. 1997. Extended calving intervals with the use of bST. Proceedings of Mid-Atlantic Dairy Conference, Thriving in a Global Economy. pp. 95-101.

Van Amburgh, M.E., Galton, D. M., Everett, R. W., Bauman, D. E., 1996. Extended calving intervals with use of bST. Protiva Science Symposium, South Padre Island, TX.

Van Amburgh, M.E. 1996. Nutrition and age at first calving. Renaissance Nutrition Conference, Bucknell University. Lewisburg, PA

Galton, D. M., Bauman, D. E., **Van Amburgh, M. E.,** and Everett, R. W. 1996. Management and Economics of Extended Calving Interval Using bST. Proceedings of the Northeast Dairy Producers Conference. Rochester, NY. Animal Science Mimeo No. 185.

Van Amburgh, M. E. 1996. Profitability of accelerated heifer growth. Proceedings of the Northeast Dairy Producers Conference, Rochester, NY. Animal Science Mimeo No. 185.

Van Amburgh, M.E. 1996. The Future of Northeast Dairy Farming: Alternatives for handling higher grain prices. Northeast Agribusiness Seminar. New York State Bankers Association. Ithaca, NY.

Van Amburgh, M. E., and Fox, D. G. 1996. Using the Cornell Model to Predict Nutrient Requirements, Performance, and Cost for Dairy Heifers. Calves, Heifers and Dairy Profitability, National Conference. Harrisburg, PA. NRAES-74.

Van Amburgh, M. E., and Galton, D. M. 1995. Accelerated growth of Holstein heifers - Effects on lactation. Ontario Dairy Symposium. Dairy Innovations ' 95. Toronto, Ontario, Canada.

Van Amburgh, M. E. 1995. Heifer growth and development. 95th Penn Annual Conference. School of Veterinary Medicine, University of Pennsylvania. Philadelphia, PA.

Van Amburgh, M. E. 1995. Optimizing heifer growth - Calving at 21 months. North East Ohio Ag Expo '95. Ohio State University Extension. Columbiana County. Beloit, Ohio.

Van Amburgh, M. E. 1995. Heifer nutrition: Ration and feeding management to achieve maximum productive capacity. Dairy Day 1995. Cornell Cooperative Extension. Schoharie Co. Cobleskill, NY.

Van Amburgh, M. E. and Galton, D. M. 1994. Accelerated growth of Holstein heifers - Effects on lactation. Proceedings Cornell Nutrition Conference. Pp. 147-154.

Van Amburgh, M. E. and Galton, D. M. 1994. Growth and Nutrition of Heifers. Proceedings Dairy Management Conference, Michigan State University Extension Publication. Pp. 39-65.

Fox, D.G., M.C. Barry and **M.E. Van Amburgh**. 1993. Meeting amino acid requirements of growing cattle with the Cornell Net Carbohydrate and Protein System. Proc. Cornell Nutrition Conference. Pp. 44-55.**EXTENSION PUBLICATIONS:**

Fox, D.G., Tylutki, T.P, Tedeschi, L.O., **Van Amburgh, M. E**., Chase, L. E., Pell, A. P., Overton, T. R., and Russell, J. B. 2003. The Net Carbohydrate and Protein System for Evaluating Herd Nutrition and Nutrient Excretion: Model Documentation. Mimeo 213. Department of Animal Science, Cornell University, Ithaca, NY.

Fox, D. G., T. P. Tylutki, **M. E. Van Amburgh**, L. E. Chase, A.N. Pell, T. R. Overton, L.O. Tedeschi, C. N. Rassmussen and V. J. Durbal. 2000. The Cornell University Nutrient Management Planning System: The Net Carbohydrate and Protein System for evaluating herd nutrition and nutrient excretion. CNCPS version 4.0.
Animal Science Department Mimeo 213.

Fox, D.G., **Van Amburgh, M.E.,** Barry, M.C., Tylutki, T.P., and Perry, T. 1996. Cornell Cattle Systems 5, Rations, Projections and Evaluation. Cattle growth and prediction model for all classes of growing cattle.
Department of Animal Science, Cornell University.

Fox, D.G., **Van Amburgh, M.E.,** Barry, M.C., Tylutki, T.P., and Perry, T., Rayburn, E., Traxler, M., Ainslie, S., and Roseler, D. 1994. Cornell Cattle Systems 4, Rations, Projections and Evaluation. Cattle growth and prediction model for all classes of growing cattle. Department of Animal Science, Cornell University.