Curriculum Vitae - Miel Hostens

Robert and Anne Everett Associate Professor of Digital Dairy Management

Miel Hostens

2025-05-15

Current position

Robert and Anne Everett Associate Professor of Digital Dairy Management and Data Analytics at Department of Animal Science, College of Agriculture and Life Sciences, Cornell University (9 months position) and at Department of Laboratory for Animal Nutrition and Animal Product Quality (0.1 FTE – Ghent University) focusing on the creation of

methodologies using precision dairy farming to monitor sustainable food production systems from a global perspective.

Biographical sketch

Miel Hostens received his MSc in Veterinary Medicine at the Ghent University (Belgium) in 2006 and was awarded his PhD in Veterinary Medicine in 2012. His profound interest in dairy science is heavily supported by an active attendance to multiple national and international dairy science conferences between 2007 and 2023. Quickly after his appointment at the department of Reproduction, Obstetrics and Herd Health in 2007, he developed a strong personal vision around the need for more data-driven dairy science through research and industry collaborations. Starting in the early days of his PhD in 2007, he successfully finished several post-graduate educations in the epidemiological, statistical and data science domain. He finished a professional certificate in Epidemiology (Prince Edward Island, 2009) and Bioinformatics (Dublin, 2016). Next to graduate students in Veterinary Medicine, he supervised undergraduate and graduate students in Computer Science and Bio-informatics. To further deepen his data science expertise, he enrolled in a MSc in Computational Statistics in 2016 and finished 45 ECTS credits. After he finished his PhD in 2013, a prototype of an analytical data pipeline and data warehouse architecture he had developed during his PhD was acquired by Delaval, one of the largest milking equipment manufacturers in the world which was subsequently merged into DairyDataWarehouse.com. The data-driven expertise he developed accelerated involvement in several research and industry projects (see below). He has attracted multiple projects on data-driven agriculture and precision dairy farming overseas. The unique combination of data and dairy science in an academic profile was the main reason for attracting him as **Associate Professor of Digital Dairy Management and Data Analytics** in January 2024 at the Department of Animal Science at Cornell University. His lab focusses on developing a data-driven dairy science eventually contributing to sustainable food production systems from a global perspective.

Motivational insights

Understanding what somebody does often starts by understanding one's motivational insights. You can read my motivational insights (created in 2022, I might have changed a little bit meanwhile :). Most of the ideas in the report can be found in the absolutely must-read "Surrounded by Idiots" by Thomas Erikson. His book and my own motivational insights have been a personal and academic game changer for me.

Education

- PhD in Veterinary Medicine, University of Ghent, 2013:

– "Health and Fertility Challenges in High Yielding Dairy Cows during the Transition Period and the Use of Dietary Fatty Acids as an Optimization Strategy"

- Master in Veterinary Medicine, University of Ghent, 2006 (*cum laude*).
- Bachelor in Veterinary Medicine, University of Ghent,2003 (*cum laude*).

Previous Scientific and Professional Activities

Function or duty	*Institution*	*from*	*to*
Robert and Anne Everett Associate Professor of Digital Dairy Management and Data Analytics focusing on the creation of methodologies using precision dairy farming to monitor sustainable food production systems from a global perspective.	Department of Animal Science, Cornell University	1/1/2024	Today
Adjunct Associate Professor	0.1 FTE Department of Laboratory for Animal Nutrition and Animal Product Quality, Ghent University	1/1/2024	Today
Tenured Assistant Professor	0.9 FTE - Department of Population Health Sciences, Utrecht University	1/1/2019	31/12/2023
Adjunct Assistant Professor	0.1 FTE Department of Laboratory for Animal Nutrition and Animal Product Quality, Ghent University	1/1/2021	*31/12/2023*

Function or duty	*Institution*	*from*	*to*
Post-doctoral fellow focusing on the optimisation of productive and reproductive performances in small and large dairy herds using digital technologies. • Workpackage leader for 3 work packages with a focus on data management in EU FP7 project GplusE. • Education of master students in Veterinary Medicine. • Statistical training of PhD students in data management in the area of dairy cows. • Post academic and extension services in the area of bovine herd health management. • Active representative in the Faculty Committee for Internationalisation.	Department of Reproduction, Obstetrics and Herd Health, Ghent University	1/11/2012	31/12/2018
Pre-doctoral fellow focusing on optimisation of productive and reproductive performances of small and large herds with an emphasis on nutrition using digital technologies, while finalizing PhD research.	Department of Reproduction, Obstetrics and Herd Health, Ghent University	1/9/2010	31/10/2012

Function or duty	*Institution*	*from*	*to*
PhD candidate funded by the Institute for the Promotion of Innovation by Science and Technology in Flanders called "Induction of milk fat depression through specific fatty acids to reduce the negative energy balance after parturition of high yielding dairy cattle in relation to fertility"	Department of Reproduction, Obstetrics and Herd Health, Ghent University	1/9/2007	31/8/2010
Veterinarian in a dairy cattle and veal calve practice	Dierenkliniek Den Ham, The Netherlands	1/1/2007	31/8/2007
PhD pre-applicant forthe Institute for the Promotion of Innovation by Science and Technology in Flanders on the topic of "Polyunsaturated fatty acids in dairy cattle nutrition and the consequences for follicle, egg and embryo quality."	Department of Reproduction, Obstetrics and Herd Health, Ghent University	1/7/2006	31/12/2006

Graduate research experience

Finalized PhDs

- **Jenne De Koster** (2016), PhD title: "Influence of body condition score of dairy cows at the end of pregnancy on peripheral tissue insulin response and metabolic properties of adipose tissue".
- **Peter Hut** (2022), PhD title: "Sense of Sensors – Monitoring Behaviour of Dairy Cows" focusing on using sensor technology in transition dairy cows.
- **Arno Liseune** (2022), PhD title: "Using deep learning for animal monitoring to improve animal welfare in dairy cattle".
- **Chen YongYan** (2024), a PhD focusing on the non-linear lactation curve and weight loss modelling in dairy cows.

Regular supervision

- Osvaldo Bogado Pascottini (Ghent University, 2016), PhD title: "Subclinical endometritis in dairy cattle: a practical approach".
- Josje Scheurwater (Utrecht University, 2024), PhD title: "The Happy Healthy Cow".

Ongoing PhD supervision

- **Matthieu Salamone**, a PhD focusing on "The transition period as time window to monitor the nutritional and metabolic resilience of high productive dairy cattle – Predictive milk production".
- **Kristof Hermans**, a PhD focusing on data quality in dairy cows as a follow up on the development of the DairyDataWarehouse.
- **Yara Sleghers**, a PhD focusing on the applying federated machine learning to disease data in poultry.
- **Saba Noor**, a PhD focusing on the use of semantic web technologies and federated learning to disease data in livestock.
- **Thomas Vandeputte,** a PhD on computer vision and sensor aided analysis of behavioural and feed intake patterns in pigs (Ghent University, expected 2025).
- **Sonam Hayu,** a PhD focusing on the use of federated vision and learning technologies in dairy production (Cornell University, expected 2028).
- **Meike van Leerdam,** a PhD focusing on the use of federated learning technologies to prediction production reproduction and animal welfare traits in dairy cows (Cornell University, expected 2029).

PhD examination committee

- Dr. Ismalia Bouba, 2024 - A data driven apporach to understand factors influencing health, welfare and performance of laying hens and Pullets.
- Dr. Mingqi Zhang, 2024 - Inter-animal variability in metabolic and oxidative status as well as in inflammatory response in Holstein cattle during the transition period.
- Dr. Yujie Liu, 2022 - Cross-species combination of cohort and intervention studies to assess the fatty acid composition in various lipid fractions of the follicular fluid in relation to blood lipid composition and embryo quality
- Dr. Zhaoju Deng, 2021 - Improving udder health management in dairy herds with automatic milking systems.

- Dr. Marlene Tremblay, 2019 - Systematic pattern recognition and modeling with imperfect data: An integration of datascience, data mining, machine learning and epidemiology.
- Dr. Wei Xu, 2019 - Energy balance and metabolic status of dairy cows: a study using metabolomics, proteomics and machine learning approaches.
- Dr. Cyriel Ververs, 2018 - Breeding on the brink of extinction: what can we learn from game-ranched white rhinoceros (Ceratotherium simum simum)?´.

Academic services

Scholarly services

• Scientific reviewer for several academic journals (Journal of Dairy Science, Journal of Animal Science, Animal, Dairy Research, Theriogenology, Preventive Veterinary Medicine, Frontiers, PlosOne, Journal of Computer and Electronics in Agriculture, …)	Present
• Chair of the 'Dairy Cattle Milk Recording Working Group' of the International Committee for Animal Recording (https://www.icar.org/index.php/technical-bodies/working-groups/dairy-cattle-milk-recording-working-group/).	2024 – Present
• Cornell Atkinson Center for Sustainability Faculty Fellow (https://fellows.atkinson.cornell.edu/)	2024 – Present
• Cornell Institute for Digital Agriculture Faculty Fellow (https://digitalagriculture.cornell.edu/)	2024 – Present
• Organiser of the 2024 ADSA Discover Conference on Milking the Data: Value-Driven Dairy Farming (Chicago, USA).	2024
• Board member framework development of the Master in Veterinary Medicine – v2022 (https://students.uu.nl/sites/default/files/dgk_raamplan_masteropleiding_diergeneeskunde_def.pdf).	2019 – 2022
• Guest editor for the special issue 'Towards Machine Learning and Artificial Intelligence in the Farm-to-Fork Industry' in the Applied Science MDPI journal (https://www.mdpi.com/journal/applsci/special_issues/Artificial_Intelligence_Farm_Industry).	2022
• Applied Data Science ambassador at Utrecht University (https://www.uu.nl/en/research/applied-data-science/about-us/ambassadors).	2018 – 2023
• Open Science Fellows FAIR data and software at Utrecht University (https://www.uu.nl/en/research/open-science/tracks/fair-data-and-software).	2018 – 2023
• Co-organiser of the 2016 ADSA Discover Conference on Big Data for Dairy (Chicago, USA).	2016

Professional membership

- Member of the American Dairy Science Association.
- Member of the Dutch Veterinary Association.
- Member of the Flemish Veterinary Association.

Teaching

Professionalization of education

- **Research Leadership Development Programme** for talented researchers at Centre for Academic Teaching and Learning, Utrecht, The Netherlands
- **University Teaching Qualification** at Centre for Academic Teaching and Learning, Utrecht, The Netherlands, 2021

Teaching experience

Institution	*Duration*	*Subject / course title*
Cornell University		
Undergraduate in Animal Science	2024-present	Main lecturer in *'Data Science Applications in Agriculture'*
	2024-present	Co-lecturer in Hackathon in Digital Agriculture
Utrecht University		
Master of Veterinary Medicine (https://www.uu.nl/masters/diergeneeskunde)	2019-present	Main developer and co-lecturer of the '*Dairy Health Management'* course.
	2022-2023	Main developer and lecturer of the '*Dier and Data'* course.
	2019-present	Main lecturer in *'International Dairy Study Trip'*
	2019-2024	Clinical rotations in *'Bovine health management'*
	2019-2023	Main lecturer in '*Veal calf management'*

Institution	*Duration*	*Subject / course title*
Bachelor of Clinical Sciences (https://www.uu.nl/bachelors/zorg-gezondheid-en-samenleving)	2022-2023	Co-developer of '*Digitalization and technology in clinical sciences'*.
Bachelor of Veterinary Medicine (https://www.uu.nl/bachelors/diergeneeskunde).	2019-2023	Weekly lectures in the Bachelor of Veterinary Medicine on bovine health management.
Master of Bio-informatics and bio-complexity (https://www.uu.nl/en/masters/bioinformatics-and-biocomplexity/study-programme)	2019-2023	Co-lecturer *'Introductory course to bioinformatics'*
Lifelong learning course	2022-2023	Development and main lecturer for the post-graduate course *'Sustainable Ruminant Health'* (https://www.uu.nl/professionals/programmas/sustainable-ruminant-health)
Inter-faculty course	2021-2023	Co-development and main lecturer for '*Dutch Dairy Student Innovation Challenge*' (https://ewuu.nl/en/education/challenges/dutch-dairy-challenge/)
Ghent University		
Bachelor of Science in Bioscience Engineering Technology	2020- present	Co-lecturer in '*Animal Physiology*' (https://studiekiezer.ugent.be/studiefiche/en/I700213/2023)
	2020- present	Co-lecturer in '*Reproductive Physiology of Animals'* (https://studiekiezer.ugent.be/studiefiche/en/I700042/2023)
Master of Science in Bioscience Engineering Technology: Agriculture and Horticulture (Plant and Animal Production)	2020- present	Main lecturerin *'Animal Production Systems*' (https://studiekiezer.ugent.be/studiefiche/en/I700259/2023)

Institution	*Duration*	*Subject / course title*
Bachelor of Science in Veterinary Medicine –	2020-present	Co-lecturer in '*Physiology and Pathophysiology I*' (https://studiekiezer.ugent.be/studiefiche/en/G000720/2022) and '*Physiology and Pathophysiology II*' (https://studiekiezer.ugent.be/studiefiche/en/G000862/2022).
Master of Science in Veterinary Medicine – Main subject: Ruminants – Cluster Food Producing Animals – Courses in Ruminant and Porcine Herd Health Medicine, with Clinical Training I, II and III	2015-2018	Theoretical courses for Courses in *Ruminant and Porcine Herd Health Medicine, with Clinical Training II and III.*
	2014-2018	Weekly practical training sessions on herd record interpretation for Courses in *Ruminant and Porcine Herd Health Medicine, with Clinical Training III.*
	2007-2018	Clinical training III during nightly duties at the Veterinary Service of the Department of Reproduction, Obstetrics and Herd Health.
	2008-2018	Clinical training III during *Bovine Herd Health* service visits.
Institute for Continued Education at Faculty of Veterinary Medicine	2010	*A practical approach to risk factors for transition cows.*
	2012	*Ration balancing for dairy cows, more than VEM and DVE.*
	2013	*Key Performance Indicators on dairy herds.*
	2013	*To synch or not to synch dairy cows.*
	2014	*Factors influencing reproduction and production results in dairy cows.*
	2015	*Data management in high yielding dairy cows.*
	2016	*Transition cows disease.*
	2018	*Short course Dairy Cow Nutrition*
	2019	*Short course Dairy Cow Nutrition*
Basic Summer Course on Veterinary Epidemiology	2016	*Big Data in Dairy Analytics*

Institution	*Duration*	*Subject / course title*
University College Dublin		
Summer school – Professional Certificate in Bioinformatics	2017	*An introduction to scalable data analytics in animal science*

Funding and project acquisition

Finished projects

Project Description	**Role**	**Year**	**Budget**
GplusE was an FP7 project funded by the European Union. It was a five-year project from 2014 and 2018 executed by 15 research and industry partners. The project covered the interaction between genotype and environment contributing to the sustainability of dairy cow production systems. This was achieved through the optimal integration of genomic selection and novel management protocols based on the development and exploitation of genomic data and supporting novel phenotyping approaches.	CoPI	2014	€9,000,000
In the SUMMERFAIR project (SUMmarizing transmission data to Enable data Reanalysis and predictions by FAIR data use) we tackle the issue of lack of a common terminology and need for repetition of costly experiments by developing a shared vocabulary (domain-ontology) and a workflow enabling reuse and combination of transmission data. The project running from 2021-2022 was granted by the dutch ZoNMW.	CoPI	2021	€250,000
VEERKRACHT/Resilience – The transition period as a window and metabolic resilience to monitor of dairy cattle, granted by national Belgian VLAIO 2018 is a project that aims at creating tools to monitor the transition success of dairy cows at individual level and herd level. These tools allow the farmer to monitor individual animals at risk, in addition to allow individualized preventive measures. This will reduce the development of transition associated problems, which will increase productivity and animal welfare.	CoPI	2018	€1,300,000

CLAWHEALTH.NL – A project sponsored by the Dutch Foundation WakkerDier to map the prevalence of leg and hoof problems in Dutch dairy cows, and to uncover the risk factors for leg and claw problems in the Netherlands using AI driven systematic reviews.	PI	2023	€100,000

Current projects

Project Description	Role	Year	Budget
DECIDE, Horizon Europe H2020-SFS-2018-2020 / 101000494, is a five-year Horizon 2020 project running from 2021 to 2025. It will develop data-driven decision support tools that offer robust and early signals of disease emergence and options for diagnostic confirmation. Moreover, options will be provided for controlling the disease along with their implications in terms of disease spread, economic burden and animal welfare.	CoPI	2021	€9,998,805
PLAY BEHAVIOR CALVES IN EUROPE – A project funded by the Dutch dairy organization ZuivelNL to detect play behaviour in relation to space allowance using accelerometer and video analytics in dairy calves.	PI	2023	€100,000
PLAY BEHAVIOR CALVES IN THE US – A project funded by the Cornell Institute for Digital Agriculture to detect play behaviour in relation to space allowance using accelerometer and video analytics in dairy calves.	PI	2023	€100,000
GLOBAL GREENFEED PROJECT – A project funded by the Global Methane Hub to accurately measure and collect gas emissions from cattle with the GreenFeed system.	PI	2024	$3,279,652
AI-Driven Pandemic Preparedness in Dairy Farming: Enhancing Health Monitoring and Disease Management through Generative AI and Data Integration (Don Bennink Endowment).	PI	2025	$249,175

Intellectual property and knowledge transfer

In 2013, intellectual property created by my group on data processing and visualisation for dairy reproduction data, co-developed between Uniform-Agri (Assen, the Netherlands) and Ghent University, was transferred towards www.DairyDataWarehouse.com (2007-2013). Dairy Data Warehouse nowadays is a specialist dairy data company providing digital solutions for a

sustainable, profitable future for dairy farmers and stakeholders throughout the dairy industry.

Awards

- In 2014 and 2018, I was twice awarded the Microsoft Azure Research award (2014 - €150,000 and 2018 - €25,000) to accelerate the adoption of scalable machine learning techniques to monitor sustainable agriculture practices.
- In 2022, I was awarded the 'Applied data science award' (€ 5,000) from the Utrecht University to create the first LoraWAN network at the faculty of Veterinary Medicine allowing real time monitoring of PLF data from the research farm 'De Tolakker'.
- In 2024, I was awarded the 'CIDA Summer Research Award' ($25,000) to advance calve welfare monitoring using computer vision.

Extension services

National Institute for Agricultural Training (NCBL)

- Multiple extension training sessions for dairy and beef herd managers on production, transition and reproductive management of dairy cows (2006-2022).

Active involvement in extension services for several Belgian, European and global agricultural businesses. Some examples but not limited to

Feed industry	Milk recording organisations	Genetic companies
• www.agrifirm.nl	• www.lactanet.ca	• www.dhia.org
• www.aveve.be	• www.crv4all.nl	• www.semex.com
• www.forfarmers.nl	• www.uscdcb.com	• www.altagenetics.com
• www.pahc.com		
• www.nutrivice.com		
Pharmaceuticals	**Dairy cooperations**	**Precision dairy farming technologies**
• www.zoetis.com	• alsafidanone.com	• www.delaval.com
• www.msd.com		• www.lely.com
• www.elanco.com		• www.connecterra.io
		• www.mmmoooogle.com

Presentations published online

https://www.youtube.com/watch?v=mEnP4GJVhRM

https://youtu.be/ibMIYSSPNwc?si=HYCIoTuj-OCwhyWo

https://youtu.be/hh8AELptzH0?si=n7MAJlp_xPd9Ug2P

Contributions to Congresses, Symposia and Workshops

Invited speaker

- Fresh Cow – Risiken und chancen. Was Sie darüber unbedingt wissen sollten! 2011. Presentation on Rinder-Gesundheitstag, Giesen, Germany.
- Visualisation of fertility records in dairy herds. 2012. Preconference seminar for SIVAR, Cremona, Italy.
- The use of dairy data in herd health management. 2014. Northeast Dairy Production Medicine Symposium, New York, United States.
- The economics of breeding protocols in dairy cows. 2015. Consensus conference on breeding protocols. Nice, France.
- The past, the present and the future of bovine herd health management. 2015. 10^{th} meeting of the European College of Bovine Herd Health Management, Maribor, Slovenia.
- Bovi-Analytics: an e-learning platform to educate veterinary students big data in dairy cows. 2015. Voorjaarsdagen. Amsterdam, The Netherlands.
- Challenges for data-intensive projects. 2016. EU Commission workshop on animal genomics and breeding for sustainable production, Brussels, Belgium.
- From Big Data to Decisions in Dairy Cows, 2016. Spark Summit, Brussels, Belgium.
- Big Dairy in Dairy Cows, 2016. ADSA Discovery Conference on Big Data in Dairy Cows, Chicago, United States.
- Visualisation and analysis of reproductive performance, 2017. Total Dairy Seminar, Keele, United Kingdom.
- Pitfalls in Dairy Analytics (advanced technical), 2017. Total Dairy Seminar, Keele, United Kingdom.
- Analysis of reproductive performance (farmer orientated), 2017. Total Dairy Seminar, Keele, United Kingdom.
- Transition management as a key to fertility success, 2017. Total Dairy Seminar, Keele, United Kingdom.

- How to monitor productive performance on a small vs large dairy, 2017. Anembe congress, Pamplona, Spain.
- Common analytical data pitfalls every practitioner should know about, 2017. Anembe congress, Pamplona, Spain.
- Will semantics help disentangle the Gordian knot of Big Data in animal health, 2017. Semantics conference, Amsterdam, Belgium.
- Monitoring fertility control programs in small and large dairy herds , 2017, The 7th National & 1st International Congress of Veterinary Gynecology, Marmaris, Turkey
- Opening keynote: A novel approach to data mining and prediction modelling in dairy cows, 2017. Big Data Conference, Vilnius, Lithuania.
- Opening Keynote: BigData Moscow: A Novel Approach to Data Mining And Prediction Modelling in Dairy Cows, 2018. Moscow, Russia.
- Transforming Big Data into Value: Put Data to Work for Your Dairy, 2018. Connect Summit, Beaver Creek, USA.
- Transforming Big Data into Value: Put Data to Work for Your Dairy, 2018. CDCB – 10 years of genomics, Reno, USA.
- Metabolic clustering of dairy cows at early and peak lactation. Global Genetics Pathfinder Initiative, Rome, Italy, 2018.
- Dairy Intelligence and Turning Data Into Information. 2019. Connect Summit, Beaver Creek, USA.
- Predicting the Moment of Birth using Sensor Data in Dairy Cows. 2019. Big Data Conference, Vilnius, Lithuania.
- What makes a biomarker a good one? 2019. Tartu, Estonia.
- Put Data to Work for the Dairy Industry. 2020. National DHIA Leadership and Annual Meeting, Savannah, USA.
- Agricultural Genome to Phenome Initiative. AG2PI meeting 2020. Online meeting.
- Monitoring transition cows using novel techniques. ADSA 39th Discover meeting 2021. Online meeting.
- Using data to embrace excellence in hoof health – challenges and opportunities. 2022. 21st International symposium & 13th international conference on lameness in ruminants, Bloomington, USA. (Link to presentation)
- How to Make Sense of 24x7 Sensor Data. 2022. Dairy Cattle Improvement Industry Forum, Lactanet, Toronto, Canada. (Link to presentation)

- Sustainable dairy production, EU within a global perspective. VetCVE meeting 2023, Cork, Ireland (Link to presentation).
- Sustainable dairy production from a global perspective, www.boerensymposium.nl, Groningen, The Netherlands (Link to presentation).
- The Finnish Veterinary Congress, 2023, Helsinki, Finland.
  - Link to presentation 1
  - Link to presentation 2
  - Link to presentation 3
- Een toekomst voor de veehouderij in Nederland, Europa en ver daarbuiten? DAMB, 2024. The Netherlands (Link to presentation).
- European Perspective on Longevity- the Data and Technology. Novus, 2024, Watkins Glen, USA (Link to presentation).
- Advancing precision dairy farming through AI. Annual Meeting American Dairy Science Association, 2024, (Link to presentation).
- Digital Dairy Farming, CIDA Symposium, 2024, Ithaca, USA (Link to presentation).
- Cattle Camp, 2024, Triesdorf, Germany.
  - Link to presentation 1
  - Link to presentation 2
- How can AI change the dairy industry? 2024, Tri-State Field Day, Montpelier, USA (Link to presentation).
- CIDA Seminar, 2025, Ithaca, USA (Link to presentation).
- What can camera technology and artificial intelligence bring to a dairy in 2025? Operations Managers Conference, 2025, Syracuse, USA (Link to presentation).
- How artificial intelligence can transform an entire agricultural industry, or NOT? IEEE MeAVeAS, 2025, Pisa, Italy (Link to presentation).
- Effectively Implementing AI at the Interface Between Veterinary and Dairy Science. Savy, 2025, Ithaca, USA (Link to presentation).

Oral conference presentation

- The effect of marine algae supplementation in the ration of high yielding dairy cows during transition and its effect on metabolic parameters in the serum and follicular fluid around parturition. 2009. Oral presentation on the XI International Symposium on Ruminant Physiology, Clermont-Ferrand, France.
- On-farm evaluation of the effect of metabolic diseases on the shape of the lactation curve in dairy cows through the milkbot lactation model. 2012. Oral presentation on the 27th World Buiatrics Congress, Lisbon, Portugal.
- Potential for novel glycan measurements in milk as biomarker phenotypes for dairy traits. 2016. Oral presentation on 67th Annual Conference of the European Federation of Animal Science, Belfast, United Kingdom.
- MmmooOgle: From Big Data to Decisions for Dairy Cows. Data + AI summit 2016. Brussels. Belgium.
- Data Mining and Prediction Modelling in the Dairy Industry Using Time Series and Sliding Windows with Apache Spark 2. Data + AI summit 2016. Dublin. Ireland.
- Exploratory classification of multiparous dairy cows based on fertility related phenotypes. 2017. Oral presentation on 68th Annual Conference of the European Federation of Animal Science, Tallinn, Estonia.
- Investigating metabolic phenotypes in multiparous dairy cows by component analysis and clustering. 2017. Oral presentation on 68th Annual Conference of the European Federation of Animal Science, Tallinn, Estonia.
- The use of technologies in dairy innovation. 2018. European Regions Research and Innovation Conference – Food Safety 2020 - Seinäjoki, Finland.
- Can artificial intelligence be used on historical cow data to improve data quality and standardization of disease records. 2019. ICAR Annual meeting. Prague, Czech Republic.
- Predicting the next life event of cows by applying deep learning on sequential and pictorial data. 2019. 9th European Conference on Precision Livestock Farming Cork, Ireland.
- Big Data for Dairy and Monitoring Cow Health and Performance. Global Dairy Series Phibro Academy 2020. Online meeting.
- The veterinary toolbox for reproductive herd health management now and in the (near) future. Zoetis Poland 2020. Online meeting.
- Modern tools for milk recording management.ICAR Annual meeting. Leeuwarden, the Netherlands. 2021. Online meeting.

- The importance of sensor data in transition cow monitoring. Alta Vet-to-vet webinar 2021. Online meeting.
- Detecting the subclinical diseased transition cow: how novel phenotyping strategies can help. Elanco Scientific Symposium 2021. Rotterdam. The Netherlands.
- Prediction of persistency at day 305 in lactation at the moment of the insemination decision. ICAR Conference 2023. Toledo. Spain. (Link to presentation)
- A predictive model for hypocalcemia in dairy cows utilizing behavioural sensor data combined with deep learning. ADSA Annual Meeting. 2023. Ottawa. Canada.
- Generative AI in agriculture. CIDA Symposium 2024. Ithaca [Link to presentation].

Extension workshops

- How we practitioners should implement our nutrition knowledge to help our farmers? 2011. Workshop on the 6th European Congress of Bovine Health Management, Liège, Belgium.
- Technology in dairy. 2012. Masterclasses for Zoetis, Cremona, Italy.
- HACCP approaches for fertility management in livestock. 2013. Workshop on the 17th ESDAR Conference, Bologna, Italy.
- Herd Health Management: The future for bovine practioners: challenge or opportunity. 2013. Masterclasses for Zoetis, Germany.
- Visualisation of heat detection and conception rates in small and large dairy herds. 2013. Masterclasses for Zoetis, The Netherlands.
- Transition management and its influence on fertility. 2013. Presentation for Proveto, The Netherlands.
- Pitfalls in the analysis of reproductive records in dairy herds. 2013. Presentation for Proveto, The Netherlands.
- Subclinical ketosis during the transition period. 2013. Launch Events Exxit Ketose, Elanco, Belgium.
- Masterclasses reproductive management in dairy cows. 2014. Zoetis, The Netherlands.
- Visualisation and interpretation of reproductive herd records. 2014. International Cow Fertility Conference 'New Science – New Practices', Westport, Ireland.
- Masterclasses reproductive management in dairy cows. 2015. Zoetis, Belgium.
- Masterclasses Transition Management. 2015. Zoetis, The Netherlands.

- Transforming Big Data into real world evidence for SARA. 2016. DairyCare Workshop on Sub-Acute Ruminal Acidosis, Glasgow, United Kingdom.
- Bovine herd health management. 2016. Workshop on the 20th ESDAR Conference, Lisbon, Portugal.
- Dairy data management, where to start. 2017. Workshop on the ANEMBE Conference, Pamplona, Spain.
- How to monitor reproductive performance, 2017. Workshop on ANEMBE Conference, Pamplona, Spain.
- Multiple sessions for the Ruminant Specialisation 2017-2018, Merelbeke, Belgium.
  - General introduction to dairy data analytics
  - Common analytical data pitfalls every practitioner should know about
  - Monitoring production
  - Monitoring reproduction
  - Insemination strategy
  - Conception strategy
  - Improve dairy cow fertility
- The truth about transition disease in dairy cows, 2017. Dechra, Tielt, Belgium.
- First results of the GplusE project, 2017. Post-Education in Veterinary Medicine, Merelbeke, Belgium.
- Ruminant clinical cases, 2017. Institute for continued education at Ughent, Merelbeke, Belgium.
- Monitoring reproduction in high yielding dairy cows. Dyrlaeger & Ko, Vintermøde, 2018, Hovborg Kro, Denmark.
- Feeding the dairy cow – Basics of high yielding dairy cows. Vakdierenarts rund 2018-2019, Merelbeke, Belgium.
- Feeding the dairy cow –Feeding high intake and milk composition. Vakdierenarts rund 2018-2019, Merelbeke, Belgium.
- Zoetis Advanced Fertilitiy Consulting 2018-2019
- Act, think and work like a datascientist. Bio-Informatics Course 2018, UCD Dublin, Ireland.
- GplusE Training School, 2018. Bucarest, Roumania/ Madrid, Spain.

- Not only a success story: A workshop on lessons learned from the past and what is really needed to move from precision to smart dairy farming! Workshop on the 10th ECPLF conference. Vienna, Austria. 2022.
- Sustainable Ruminant Health. How to manage it successfully. 2023. Utrecht, The Netherlands [Link to presentation].
- Sustainable Ruminant Health. Presentation for DAP Oostland. 2023. Halle, The Netherlands [Link to presentation].
- Duurzame melkveehouderij vanuit een internationaal perspectief. Boerensymposium. Groningen, The Netherlands [Link to presentation].
- Meer melk uit (ruw)voer. Klantenavond 2023 Dierenkliniek Wolvega. Wolvega, The Netherlands. [Link to presentation].
- NutriVice studie bijeenkomst 2023. Een toekomst voor de Nederlandse melkveehouderij. Ane & Velden, The Netherlands [Link to presentation].
- Evolution or revolution. Future Food Utrecht Symposium 2023. Driebergen, The Netherlands [Link to presentation].
- Toekomst van de melkveehouderij in Nederland, Europa en daarbuiten. 2024. DAMB. Ithaca [Link to presentation].
- Toekomst van de melkveehouderij in Nederland, Europa en daarbuiten. Boerensymposium. Markelo [Link to presentation].

Professional supplementary training and education

Dairy science domain

- Cursus rundveevoeding: recente ontwikkelingen en nieuwe inzichten, Wageningen Business School, The Netherlands — 2007
- BASF, Tagungsveranstaltung, Haus Riswick, Germany — 2007
- WIAS Seminar: Strategies to improve health and fertility in dairy cows, Wageningen, The Netherlands — 2008
- ITB Schulung Februar, DSP Agrosoft, Verden, Germany — 2008
- 14th DISCOVER Conference: Lipids for Dairy Cattle: Today's Issues, Tomorrow's Challenges, Nashville, Indiana, United States — 2008
- 25th World Buiatrics Congress, Budapest, Hungary — 2008
- International symposium: Nutritional strategies to manage the challenges of today's dairy cows, Wageningen, The Netherlands — 2009
- International Symposium on Ruminant Physiology, Clermont-Ferrand, France — 2009

- Rindergesundheitstag – Milch und gute Fruchtbarkeit: Die besten Strategien, Leipzig, Germany 2009
- ITB Schulung August, DSP Agrosoft, Verden, Germany 2009
- 17th DISCOVER Conference: Dairy Herd Analytics, Nashville, United States 2009
- 20th Discover Conference: The Transition Cow: Biology and Management, Champaign, United States 2010
- Dairy Solutions Symposium – Rumen Health : A 360° Analysis, Utrecht, The Netherlands 2010
- Alta Value Services Konferenz, Bremen, Germany 2010
- 14th International Conference on Production Diseases in Farm Animals, Ghent, Belgium 2010
- International Reproduction Conference, Anchorage, United States 2010
- Bovine Professionals Meeting, Fertility and Rumen Health, Hofheim, Germany 2010
- 21st Discover Conference: Improving Reproductive Efficiency of Lactating Dairy Cattle, United States 2011
- 22nd Discover Conference: Milk Components: Opportunities for Maximizing Farm Gate Returns, Chicago, United States 2011
- Rindergesundheitstag, Giesen, Germany 2011
- European Buiatrics Forum, Marseille, France 2011
- Meeting American Association for Bovine Practitioners, Louisville, United States 2011
- 25th Discover Conference: New Developments in Immunity, Nutrition, and Management of the Preruminant Calf, Chicago, United States 2012
- 27th World Buiatrics Congress, Lisbon, Portugal 2012
- Meeting American Association for Bovine Practitioners, Toronto, Canada 2012
- 14th international congress of sivar ,Cremona, Italy 2012
- Bovine Professionals Meeting, Claw Health and Transition Management, Hofheim, Germany 2012
- 26th Discover Conference: Dairy Feed Efficiency, United States 2013
- Meeting of the European Society for Domestic Animal Reproduction, Milano, Italy 2013
- Dairyland Initiative Meeting on Transition Cow and Positive Pressure Tube Ventilation, Madison, United States 2013
- 28th Discover Conference: Starch for Ruminants, Chicago, United States 2014
- Joint ASA-ADSA Annual Meeting, Kansas City, United States 2014
- 65th Annual Conference of the European Federation of Animal Science, Copenhagen, Denmark 2014
- Blanca Reproduction Workshop, Barcelona, Spain 2015
- ICAR Technical meeting, Cracow, Poland 2015

- 66th Annual Conference of the European Federation of Animal Science, Warshau, Poland 2015
- 7th European Conference on Precision Livestock Farming, Milan, Italy 2015
- Large Dairy Herd Management Conference, Chicage, United States 2016
- 67th Annual Conference of the European Federation of Animal Science, Belfast, United Kingdom. 2016
- 68th Annual Conference of the European Federation of Animal Science, Tallinn, Estonia. 2017
- 70th Annual Conference of the European Federation of Animal Science, Ghent, Belgium. 2019
- ADSA Annual meeting, Cincinnati, Ohio 2019
- 9th European Conference on Precision Livestock Farming Cork, Ireland. 2019
- European Bovine Congress 2019
- Annual ICAR meeting, Prague, Czech Republic. 2019
- 9th European Conference on Precision Livestock Farming Cork, Ireland 2019
- 39th Discover Conference: The Transition Period – From physiology to management, online meetings 2020
- Annual ICAR conference, Leeuwarden, The Netherlands 2021
- Dairy InnovCongress, Namur, Belgium 2022
- Annual ICAR conference, Montreal, Canada 2022
- 10th European Conference on Precision Livestock Farming, Vienna, Austria 2022
- 43th Discover Conference: Dairy Cattle Reproduction – Lessons learned and future frontiers 2022
- Joint Committee for Dairy Diagnostics, Rome, Italy 2022

Informatics, Data science and statistical domain

- Post-graduate courses in applied informatics at Hogent 2007-2010

(https://www.hogent.be/en/future-student/postgraduate-non-degrees/).

- EPI on the Island 2009: An introduction to multilevel modeling, Prince Edward Island, Canada 2009
- Introduction to SAS, Institute for Continued Education, Ghent, Belgium 2009
- Introductory Statistics. Basics of Statistical Inference, Institute for Continued Education, Ghent, Belgium 2009
- Analysis of Variance, Institute for Continued Education, Ghent, Belgium 2009
- Applied Linear Regression, Institute for Continued Education, Ghent, Belgium 2010
- Applied Logistic Regression, Institute for Continued Education, Ghent, Belgium 2011

• Multilevel Analysis for Grouped and Longitudinal Data, Institute for Continued Education, Ghent, Belgium	2011
• Design and Analysis of Clinical Trials, UGhent, Belgium	2011
• Survival Analysis, UGhent, Belgium	2012
• Introduction to R, Institute for Continued Education, Ghent, Belgium	2013
• Tech Transfer Skills Workshop, Institute for Continued Education, Ghent, Belgium	2013
• Multivariate data analysis, Institute for Continued Education, Ghent, Belgium	2014
• An Introduction to Big Data, Institute for Continued Education, Ghent, Belgium	2015
• Professional Certificate in Bioinformatics, University College Dublin, Ireland	2016
• Principles of Statistical Data Analysis, Ghent, Belgium	2016
• Statistical Modelling, Ghent, Belgium	2016
• Data + AI summit. Brussels. Belgium.	2016
• Big Data Science, Ghent, Belgium	2017
• Computer-intensive Statistical Methods, Ghent, Belgium	2017
• Databases, Ghent, Belgium	2017
• Programming and Algorithms, Ghent, Belgium	2017
• Statistical Computing, Ghent, Belgium	2017
• Data + AI summit. Dublin. Ireland.	2017

Natural Languages

Mother tongue : Dutch

Other:

	Understanding	Speaking	Writing
English	+++	+++	+++
French	++	+	±
German	±	±	-
Italian	±	±	-

Datascience skills

Computer languages	**Datascience software**	**Statistical frameworks**

[R]	SQL Server/warehouse	SPSS
Python	Jupyter notebooks	SAS-Project
Scala	Jupyter lab	R-Project
SQL	Intellij	
SAS code	Google colab	
Bash	Spark scala	
C++	Tableau	
	Docker	
	TensorFlow	
	Git & Github	
Cloud	**Hardware**	**Other**
Microsoft azure	IoT (eg LoraWAN)	
Google cloud	Arduino framework	
Docker	RaspberryPi	
TheThingsNetwork		

Publications

Asaadi, A., M. Kafi, H. Atashi, M. Azari, and M. Hostens. 2019. Frozen-thawed ampullary cell monolayer improves bovine embryo in vitro development and quality. Zygote 27:337–346. doi:10.1017/S0967199419000388.

Atashi, H., A. Asaadi, and M. Hostens. 2021a. Association between age at first calving and lactation performance, lactation curve, calving interval, calf birth weight, and dystocia in holstein dairy cows. PLoS One 16:e0244825. doi:10.1371/journal.pone.0244825.

Atashi, H., and M. Hostens. 2021. Genetic aspects of somatic cell count in holstein dairy cows in iran. Animals (Basel) 11. doi:10.3390/ani11061637.

Atashi, H., M. Hostens, and E. consortium Gplus. 2021b. Genetic parameters for milk urea and its relationship with milk yield and compositions in holstein dairy cows. PLoS One 16:e0253191. doi:10.1371/journal.pone.0253191.

Atashi, H., M. Salavati, J. De Koster, M.A. Crowe, G. Opsomer, E. consortium Gplus, and M. Hostens. 2020a. Genome-wide association for metabolic clusters in early-lactation holstein dairy cows. J Dairy Sci 103:6392–6406. doi:10.3168/jds.2019-17369.

Atashi, H., M. Salavati, J. De Koster, M.A. Crowe, G. Opsomer, M. Hostens, and E.C. The Gplus. 2020b. A genome-wide association study for calving interval in holstein

dairy cows using weighted single-step genomic BLUP approach. Animals (Basel) 10. doi:10.3390/ani10030500.

Atashi, H., M. Salavati, J. De Koster, J. Ehrlich, M. Crowe, G. Opsomer, E. consortium Gplus, and M. Hostens. 2020c. Genome-wide association for milk production and lactation curve parameters in holstein dairy cows. J Anim Breed Genet 137:292–304. doi:10.1111/jbg.12442.

Atashi, H., M. Salavati, J. De Koster, J. Ehrlich, M. Crowe, G. Opsomer, N. McLoughlin, A. Fahey, E. Matthews, A. Santoro, C. Byrne, P. Rudd, R. O'Flaherty, S. Hallinan, C. Wathes, Z.R. Cheng, A. Fouladi, G. Pollott, D. Werling, B.S. Bernardo, A. Wylie, M. Bell, M. Vaneetvelde, K. Hermans, G. Opsomer, S. Moerman, J. De Koster, H. Bogaert, J. Vandepitte, L. Vandevelde, B. Vanranst, J. Hoglund, S. Dahl, S. Ostergaard, J. Rothmann, M. Krogh, E. Meyer, C. Gaillard, J. Ettema, T. Rousing, F. Signorelli, F. Napolitano, B. Moioli, A. Crisa, L. Buttazzoni, J. McClure, D. Matthews, F. Kearney, A. Cromie, M. McClure, S.J. Zhang, X. Chen, H.C. Chen, J.L. Zhao, L.G. Yang, G.H. Hua, C. Tan, G.Q. Wang, M. Bonneau, A. Pompozzi, A. Pearn, A. Evertson, L. Kosten, A. Fogh, T. Andersen, M. Lucey, C. Elsik, G. Conant, J. Taylor, N. Gengler, M. Georges, F. Colinet, M.R. Pamplona, H. Hammami, C. Bastin, H. Takeda, A. Laine, A.S. Van Laere, M. Schulze, S.P. Vera, C. Ferris, C. Marchitelli, M. Hostens, and G. Consortium. 2020d. Genome-wide association for milk production and lactation curve parameters in holstein dairy cows. Journal of Animal Breeding and Genetics 137:292–304. doi:10.1111/jbg.12442.

Atashi, H., M. Salavati, J. Koster, M.A. Crowe, G. Opsomer, M. Hostens, and G. Consortium. 2020e. Genome-wide association for metabolic clusters in early -lactation holstein dairy cows. Journal of Dairy Science 103:6392–6406. doi:10.3168/jds.2019-17369.

Bogado Pascottini, O., M. Hostens, and G. Opsomer. 2018. Cytological endometritis diagnosed at artificial insemination in repeat breeder dairy cows. Reprod Domest Anim 53:559–561. doi:10.1111/rda.13110.

Bogado Pascottini, O., M. Probo, S.J. LeBlanc, G. Opsomer, and M. Hostens. 2020. Assessment of associations between transition diseases and reproductive performance of dairy cows using survival analysis and decision tree algorithms. Prev Vet Med 176:104908. doi:10.1016/j.prevetmed.2020.104908.

Bossaert, P., L. Leterme, T. Caluwaerts, S. Cools, M. Hostens, I. Kolkman, and G. Opsomer. Teaching rectal palpation of the genital apparatus in cows: Depiction of the learning process in live cows and evaluation of a simulated training model. Page 67 in European buiatrics forum.

Caluwaerts, T., M. Hostens, B. Van Ranst, A. de Kruif, and G. Opsomer. Monitoring reproduction in modern dairy herds. Page 65 in 13th annual conference of the european society

for domestic animal reproduction.

Caluwaerts, T., M. Hostens, B. Van Ranst, A. de Kruif, and G. Opsomer. 2009. Monitoring reproduction in modern dairy herds. Reproduction in Domestic Animals 44:65.

Caluwaerts, T., M. Hostens, B. Van Ranst, and G. Opsomer. The relationship between the increasing ratio of milk yield in the first part of lactation and the moment of first recorded heat in dairy cows. Page 98 in 13th annual conference of the european society for domestic animal reproduction.

Charlier, J., M. Hostens, J. Jacobs, B. Van Ranst, L. Duchateau, and J. Vercruysse. 2012. Integrating fasciolosis in the dry cow management: The effect of closantel treatment on milk production. Plos One IF 4.092:in press.

Charlier, J., J. Jacobs, M. Hostens, B. Van Ranst, L. Duchateau, and J. Vercruysse. Treatment with closantel oral suspension at dry-off in dairy cows exposed to the liver fluke: Effect on milk production parameters. Page 68 in 6th european congress of bovine health management.

Chen, Y., M. Hostens, M. Nielen, J. Ehrlich, and W. Steeneveld. 2022. Herd level economic comparison between the shape of the lactation curve and 305 d milk production. Front Vet Sci 9:997962. doi:10.3389/fvets.2022.997962.

Cools, S., P. Bossaert, T. Caluwaerts, M. Hostens, G. Opsomer, and A. de Kruif. 2008. De economische gevolgen van een verlenging van de tussenkalftijd bij hoogproductief melkvee. Vlaams Diergeneeskundig Tijdschrift 77:402–409.

Crowe, M.A., M. Hostens, and G. Opsomer. 2018. Reproductive management in dairy cows - the future. Ir Vet J 71:1. doi:10.1186/s13620-017-0112-y.

De Koster, J., M. Salavati, C. Grelet, M.A. Crowe, E. Matthews, R. O'Flaherty, G. Opsomer, L. Foldager, GplusE, and M. Hostens. 2019b. Corrigendum to "prediction of metabolic clusters in early-lactation dairy cows using models based on milk biomarkers" (j. Dairy sci. 102:2631-2644). J Dairy Sci 102:3778. doi:10.3168/jds.2019-102-4-3778.

De Koster, J., M. Salavati, C. Grelet, M.A. Crowe, E. Matthews, R. O'Flaherty, G. Opsomer, L. Foldager, GplusE, and M. Hostens. 2019a. Prediction of metabolic clusters in early-lactation dairy cows using models based on milk biomarkers. J Dairy Sci 102:2631–2644. doi:10.3168/jds.2018-15533.

De Koster, J., M. Salavati, C. Grelet, M.A. Crowe, E. Matthews, R. O'Flaherty, G. Opsomer, L. Foldager, M. Hostens, N. McLoughlin, A. Fahey, A. Santoro, C. Byrne, P. Rudd, S. Hallinan, C. Wathes, Z.R. Cheng, A. Fouladi, G. Pollott, D. Werling, B.S. Bernardo, A.

Wylie, M. Bell, M. Vaneetvelde, K. Hermans, S. Moerman, H. Bogaert, J. Vandepitte, L. Vandevelde, B. Vanranst, J. Hoglund, S. Dahl, S. Ostergaard, J. Rothmann, M. Krogh, E. Meyer, C. Gaillard, J. Ettema, T. Rousing, F. Signorelli, F. Napolitano, B. Moioli, A. Crisa, L. Buttazzoni, J. McClure, D. Matthews, F. Kearney, A. Cromie, M. McClure, S.J. Zhang, X. Chen, H.C. Chen, J.L. Zhao, L.G. Yang, G.H. Hua, C. Tan, G.Q. Wang, M. Bonneau, A. Pompozzi, A. Pearn, A. Evertson, L. Kosten, A. Fogh, T. Andersen, M. Lucy, C. Elsik, G. Conant, J. Taylor, N. Gengler, M. Georges, F. Colinet, M.R. Pamplona, H. Hammami, C. Bastin, H. Takeda, A. Laine, A.S. Van Laere, M. Schulze, S.P. Vera, and GplusE. 2019c. Prediction of metabolic clusters in early-lactation dairy cows using models based on milk biomarkers. Journal of Dairy Science 102:2631–2644. doi:10.3168/jds.2018-15533.

De Koster, J., M. Salavati, C. Grelet, M.A. Crowe, E. Matthews, R. O'Flaherty, G. Opsomer, L. Foldager, N. McLoughlin, A. Fahey, E. Matthews, A. Santoro, C. Byrne, P. Rudd, R. O'Flaherty, S. Hallinan, C. Wathes, Z.R. Cheng, A. Fouladi, G. Pollott, D. Werling, B.S. Bernardo, A. Wylie, M. Bell, M. Vaneetvelde, K. Hermans, G. Opsomer, S. Moerman, J. De Koster, H. Bogaert, J. Vandepitte, L. Vandevelde, B. Vanranst, J. Hoglund, S. Dahl, S. Ostergaard, J. Rothmann, M. Krogh, E. Meyer, C. Gaillard, J. Ettema, T. Rousing, F. Signorelli, F. Napolitano, B. Moioli, A. Crisa, L. Buttazzoni, J. McClure, D. Matthews, F. Kearney, A. Cromie, M. McClure, S.J. Zhang, X. Chen, H.C. Chen, J.L. Zhao, L.G. Yang, G.H. Hua, C. Tan, G.Q. Wang, M. Bonneau, A. Pompozzi, A. Pearn, A. Evertson, L. Kosten, A. Fogh, T. Andersen, M. Lucy, C. Elsik, G. Conant, J. Taylor, N. Gengler, M. Georges, F. Colinet, M.R. Pamplona, H. Hammami, C. Bastin, H. Takeda, A. Laine, A.S. Van Laere, M. Schulze, S.P. Vera, C. Marchitelli, M. Hostens, and GplusE. 2019d. Prediction of metabolic clusters in early-lactation dairy cows using models based on milk biomarkers (vol 102, pg 2631, 2019). Journal of Dairy Science 102:3778–3778. doi:DOI 10.3168/jds.2019-102-4-3778.

Depreester, E., J. De Koster, M. Van Poucke, M. Hostens, W. Van den Broeck, L. Peelman, G.A. Contreras, and G. Opsomer. 2018. Influence of adipocyte size and adipose depot on the number of adipose tissue macrophages and the expression of adipokines in dairy cows at the end of pregnancy. J Dairy Sci 101:6542–6555. doi:10.3168/jds.2017-13777.

Foldager, L., C. Gaillard, M.T. Sorensen, T. Larsen, E. Matthews, R. O'Flaherty, F. Carter, M.A. Crowe, C. Grelet, M. Salavati, M. Hostens, K.L. Ingvartsen, M.A. Krogh, and E.C. Gplus. 2020. Predicting physiological imbalance in holstein dairy cows by three different sets of milk biomarkers. Prev Vet Med 179:105006. doi:10.1016/j.prevetmed.2020.105006.

Goderis, M., M. Hostens, and G. Opsomer. Severe outbreaks of botulism in cattle herds in flanders : 4 case reports. Pages 75–76 in 15th world buiatrics congress.

Grelet, C., E. Froidmont, L. Foldager, M. Salavati, M. Hostens, C.P. Ferris, K.L. Ingvartsen, M.A. Crowe, M.T. Sorensen, J.A. Fernandez Pierna, A. Vanlierde, N. Gengler, E.C. Gplus, and F. Dehareng. 2020. Potential of milk mid-infrared spectra to predict nitro-

gen use efficiency of individual dairy cows in early lactation. J Dairy Sci 103:4435–4445. doi:10.3168/jds.2019-17910.

Hermans, K., G. Opsomer, B. Van Ranst, and M. Hostens. 2018. Promises and challenges of big data associated with automated dairy cow welfare assessment. Animal Welfare in a Changing World 199–207.

Hostens, M., P. Bossaert, S. Cools, A. de Kruif, and G. Opsomer. 2010. Het gebruik van glucogene precursoren in de voeding van hoogproductief melkvee. Vlaams Diergeneeskundig Tijdschrift 79:247–258.

Hostens, M., T. Caluwaerts, B. Van Ranst, and G. Opsomer. The effect of age at first calving on subsequent production in dairy cattle. Pages 85–86 in 13th annual conference of the european society for domestic animal reproduction.

Hostens, M., T. Caluwaerts, E. Vandekerckhove, S. De Vliegher, S. Piepers, B. Van Ranst, and G. Opsomer. Factors associated with oestrous length in high yielding dairy cows. Page 65 in European buiatrics forum.

Hostens, M., V. Fievez, J.L.M.R. Leroy, B. Van Ranst, B. Vlaeminck, and G. Opsomer. 2012a. The level of unsaturation of milk and reproductive performance in dairy cattle. Animal Reproduction Science (Submitted).

Hostens, M., V. Fievez, J.L.M.R. Leroy, J. Van Ranst, B. Vlaeminck, and G. Opsomer. 2012b. The fatty acid profile of subcutaneous and abdominal fat in dairy cows with left displacement of the abomasum. Journal of Dairy Science 95:3756–3765. doi:DOI 10.3168/jds.2011-5092.

Hostens, M., V. Fievez, B. Vlaeminck, J. Buyse, J.L.M.R. Leroy, S. Piepers, S. De Vliegher, and G. Opsomer. The effect of DHA enriched marine algae in the ration of high yielding dairy cows during transition on milk components in ADSA discovery conference on milk components.

Hostens, M., V. Fievez, B. Vlaeminck, S. De Vliegher, S. Piepers, and G. Opsomer. The effect of marine algae supplementation in the ration of high yielding dairy cows during transition and its effect on metabolic parameters in the serum and follicular fluid around parturition. Pages 712–713 in XI international symposium on ruminant physiology.

Hostens, M., V. Fievez, B. Vlaeminck, J.L.M.R. Leroy, and G. Opsomer. 2012c. The effect of feeding omega-6 and omega-3 fatty acids in early lactation on blood and follicular fluid fatty acid profiles (In Preparation).

Hostens, M., and G. Opsomer. Interaction of metabolic challenges and successful fertility in

high yielding dairy cows. review. Pages 118–121 in 27th world buiatrics congress.

Hostens, M., L. Peelman, V. Fievez, and G. Opsomer. The effect of microalgae supplementation on the liver function in transition dairy cows in 14th international conference on production diseases in farm animals.

Hostens, M., L. Peelman, V. Fievez, and G. Opsomer. The effect of microalgae supplementation on the mRNA expression for gluconeogenic enzymes in liver of transition dairy cows. Page 583 in 8th ruminant reproduction symposium.

Hostens, M., A. Steen, V. Fievez, and G. Opsomer. Differences in fatty acid profile of subcutaneous fat at drying-off versus at calving in high yielding dairy cows fed extruded linseed during lactation. Page 128 in European buiatrics forum.

Hostens, M., B. Van Ranst, T. caluwaerts, and G. Opsomer. The fertitree : A decision tree for reproductive management in high yielding dairy cows in europe in 21th ADSA discover meeting.

Hostens, M., B. Vlaeminck, V. Fievez, and G. Opsomer. The effect of marine algae supplementation in high yielding dairy cows during transition on metabolic parameters in the serum and follicular fluid early post-partum. Page 86 in 13th annual conference of the european society for domestic animal reproduction.

Hostens, M., B. Vlaeminck, V. Fievez, J. Van Ranst, and G. Opsomer. The fatty acid profile of subcutaneous and abdominal fat depots as compared to the NEFA in the blood plasma during the negative energy balance in high yielding dairy cows. Page 131 in 14th international conference on production diseases in farm animals.

Hut, P.R., M.M. Hostens, M.J. Beijaard, F. van Eerdenburg, J. Hulsen, G.A. Hooijer, E.N. Stassen, and M. Nielen. 2021. Associations between body condition score, locomotion score, and sensor-based time budgets of dairy cattle during the dry period and early lactation. J Dairy Sci 104:4746–4763. doi:10.3168/jds.2020-19200.

Hut, P.R., S.E.M. Kuiper, M. Nielen, J. Hulsen, E.N. Stassen, and M.M. Hostens. 2022a. Sensor based time budgets in commercial dutch dairy herds vary over lactation cycles and within 24 hours. PLoS One 17:e0264392. doi:10.1371/journal.pone.0264392.

Hut, P.R., J. Scheurwater, M. Nielen, J. van den Broek, and M.M. Hostens. 2022b. Heat stress in a temperate climate leads to adapted sensor-based behavioral patterns of dairy cows. J Dairy Sci 105:6909–6922. doi:10.3168/jds.2021-21756.

Kamal, M., M. Van Eetvelde, E. Depreester, M. Hostens, L. Vandaele, and G. Opsomer. 2014. Age at calving in heifers and level of milk production during gestation in cows are associated

with the birth size of holstein calves. Journal of dairy science 97:5448–5458.

Kemel, C., M. Salamone, H. Van Loo, C. Latour, S. Vandeputte, J. Callens, M. Hostens, and G. Opsomer. 2022. Unaffected semen quality parameters in neospora caninum seropositive belgian blue bulls. Theriogenology 191:10–15. doi:10.1016/j.theriogenology.2022.07.013.

Knegsel, A.T.M. van, M. Hostens, G.D. Reilingh, A. Lammers, B. Kemp, G. Opsomer, and H.K. Parmentier. 2012. Natural antibodies related to metabolic and mammary health in dairy cows. Preventive Veterinary Medicine 103:287–297. doi:DOI 10.1016/j.prevetmed.2011.09.006.

Knegsel, A.T.M. van, M. Hostens, G. de Vries Reilingh, V. Fievez, G. Opsomer, and H.K. Parmentier. Microalgae supplementation does not affect natural antibodies levels in plasma of peripartum dairy cows. Page 166 in 14th international conference on production diseases in farm animals.

Krogh, M.A., M. Hostens, M. Salavati, C. Grelet, M.T. Sorensen, D.C. Wathes, C.P. Ferris, C. Marchitelli, F. Signorelli, F. Napolitano, F. Becker, T. Larsen, E. Matthews, F. Carter, A. Vanlierde, G. Opsomer, N. Gengler, F. Dehareng, M.A. Crowe, K.L. Ingvartsen, and L. Foldager. 2020. Between- and within-herd variation in blood and milk biomarkers in holstein cows in early lactation. Animal 14:1067–1075. doi:10.1017/S1751731119002659.

Liseune, A., M. Salamone, D. Van den Poel, B. van Ranst, and M. Hostens. 2021. Predicting the milk yield curve of dairy cows in the subsequent lactation period using deep learning. Computers and Electronics in Agriculture 180. doi:ARTN 105904 10.1016/j.compag.2020.105904.

Liseune, A., M. Salamone, D. Van den Poel, B. Van Ranst, and M. Hostens. 2020. Leveraging latent representations for milk yield prediction and interpolation using deep learning. Computers and Electronics in Agriculture 175. doi:ARTN 105600 10.1016/j.compag.2020.105600.

Liseune, A., D. Van den Poel, B. Van Ranst, and M. Hostens. 2019. Predicting the next life event including disease by applying deep learning on sequential and pictorial data. Journal of Dairy Science 102:394–394.

Llamas-Luceno, N., M. Hostens, E. Mullaart, M. Broekhuijse, P. Lonergan, and A. Van Soom. 2020. High temperature-humidity index compromises sperm quality and fertility of holstein bulls in temperate climates. J Dairy Sci 103:9502–9514. doi:10.3168/jds.2019-18089.

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