Curriculum Vitae

Morten Maigaard
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Education

2020 - 2024 **PhD, Department of Animal and Veterinary Sciences, Aarhus University**
2018 - 2020 **Master of Science in Animal Science, University of Copenhagen**
2014 - 2017 **Bachelor of Science in Animal Science, University of Copenhagen**
2013 - 2014 **Agricultural assistant, Graasten Agricultural School**

Employment and experience

- **December 2023**
  Post Doc at Department of Animal and Veterinary Sciences, Aarhus University
- **March 2022 – August 2022**
  Research Assistant at Department of Animal and Veterinary Sciences, Aarhus University
- **May 2020 – November 2023**
  PhD fellow at Department of Animal Science, Aarhus University
- **March 2017 – January 2020**
  Student intern at DAKOFO - Danish Grain and Feed Trade Association
- **August 2017 – February 2018**
  Trainee at SEGES, Livestock Innovation

Projects

2024-2027: Methane emission reduction from cows by methanotrophic bacteria (MethaCow). Innovation Fund Denmark. Role: WP leader and grant holder for AU part.
2024-2027: Quantification and reduction of methane emissions from dairy heifers (OpMet). Landbrugsstyrelsen. Role: WP co-leader.
2024-2029: Quantification and reduction of methane emissions from beef production (GreenCalf). GUDP. Role: WP co-leader.

Publications

Johansen, M., **M. Maigaard** & P. Lund. 2025. Effect of Bovaer inclusion in diets with high proportion of grass-clover silage of different nutritional quality on gas emissions and production performance in dairy cows. Journal of Dairy Science, 108:4975–4987. DOI:10.3168/jds.2024-25949

Martins, L. F., **M. Maigaard**, M. Johansen, P. Lund, X. Ma, M. Niu & A. N. Hristov. 2025. Lactational performance effects of 3-nitrooxypropanol supplementation to dairy cows: A meta-regression. Journal of Dairy Science, 108:1538-1553. DOI: 10.3168/jds.2024-25653.

Maigaard, M., M. R. Weisbjerg, C. Ohlsson, N. Walker & P. Lund. 2025. Effects of different doses of 3-nitrooxypropanol combined with varying forage composition on feed intake, methane emission, and milk production in dairy cows. Journal of Dairy Science, 108:2489-2502. DOI: 10.3168/jds.2024-25343.

Sirinayake Lokuge, G. M., N. Nielsen, M. Maigaard, P. Lund, L. B. Larsen, L. Wiking, & N. A. Poulsen. 2025. JDS Communications, 6:261–266. DOI: 10.3168/jdsc.2024-0656.

Lund, P., M. H. Kjeldsen, M. Thorsteinsson, **M. Maigaard**, D. W. Olijhoek, E. M. V. Hvas, C. F. Børsting, M. Brask, M. R. Weisbjerg, M. Larsen. 2025. TRL-niveau for nye, metan-reducerende fodertyper og fodertilsætningsstoffer. Rådgivningsnotat fra DCA – Nationalt Center for Fødevarer og Jordbrug, Aarhus Universitet. 59 sider. Leveret: 29.01.2025.

Maigaard, M., M. R. Weisbjerg, M. Johansen, N. Walker, C. Ohlsson & P. Lund. 2024. Effects of dietary fat, nitrate, and 3-NOP and their combinations on methane emission, feed intake and milk production in dairy cows. Journal of Dairy Science, 107:220-241. DOI: 10.3168/jds.2023-23420. Selected as Editor's choice, Sep 2023.

Maigaard, M., M. R. Weisbjerg, A. L. F. Hellwing, M. Larsen, F. B. Andersen & P. Lund. 2024. The acute effects of rumen pulse-dosing of hydrogen acceptors during methane inhibition with nitrate or 3-nitrooxypropanol in dairy cows. Journal of Dairy Science, 107:5681-5698. DOI: 10.3168/jds.2023-24343.

Maigaard, M., M. R. Weisbjerg, M. O. Nielsen, A. l. F. Hellwing & P. Lund. 2024. Effects of dietary nitrate, fumaric acid, and methanotrophic bacteria supplementation on rumino-intestinal nutrient metabolism and enteric gas exchange in dairy cows. Livestock Science, 289, DOI: 10.1016/j.livsci.2024.105572.

M. Maigaard. 2024. Combining feed additives to mitigate methane emission and redirect hydrogen in dairy cows. PhD thesis. Department of Animal and Veterinary Science, Aarhus University.

Lund, P., **M. Maigaard**, M. H. Kjeldsen, M. Johansen, A. L. F. Hellwing, M. R. Weisbjerg & O. K. Nielsen. 2024. Implementation of the Use of the Enteric Methane Mitigating Feed Additive Bovaer® in the National Danish Emission Inventories for Dairy Cows. Advisory report from DCA – Danish Centre for Food and Agriculture, Aarhus University. 17 pages. Submitted: 10.06.2024.

Sirinayake Lokuge, G. M., **M. Maigaard**, P. Lund, T. A. Maria Rovers, L. B. Larsen, N. A. Poulsen & L. Wiking. 2024. Physico-chemical, sensory and oxidative quality of butter from cows fed 3-nitrooxypropanol. International Dairy Journal, 152. DOI: 10.1016/j.idairyj.2024.105885.

Sirinayake Lokuge, G. M., M. K. Larsen, **M. Maigaard**, L. Wiking, L. B. Larsen, P. Lund & N. A. Poulsen. 2024. Effects of feeding whole-cracked rapeseeds, nitrate, and 3-nitrooxypropanol on protein composition, minerals, and vitamin B in milk from Danish Holstein cows. Journal of Dairy Science, 107:5353-5365. DOI: 10.3168/jds.2023-24372.

Sirinayake Lokuge, C. Kaysen, **M. Maigaard**, P. Lund, L. Wiking & N. A. Poulsen. 2024. Effects of feeding whole-cracked rapeseeds, nitrate, and 3-nitrooxypropanol on composition and functional properties of the milk fat fraction from Danish Holstein cows. Journal of Dairy Science, 107:5330-5342. DOI: 10.3168/jds.2024-23980.

Lund, P., C. F. Børsting, G. Giagnoni, M. H. Kjeldsen, M. Larsen, **M. Maigaard**, M. O. Nielsen, D. Olijhoek, M. M. Thorsteinsson, W. Wang & M. R. Weisbjerg. 2024. How to reduce enteric methane from dairy cows. Book of Abstracts of the 75th Annual Meeting of the European Federation of Animal Science, Rome. Wageningen Academic Publicers, p. 409-409.

Andersen M. N, A. P. Adamsen, P. E. Lærke, S. U. Larsen, U. Jørgensen, J. E. Olesen, K. Manevski, S. S. Bay, N. J. Hutchings, E. M. Hansen, L. J. Munkholm, C. D. Børgesen, I. K. Thomsen, L. Elsgaard, S. O. Petersen, M. Toda, W. Ntinyari, P. Sørensen, J. Audet, P. H. Krogh, M. Bruus, G. Blicher-Mathiesen, B. Kronvang, D. Zak,T. A. Andersen, R. Albrektsen, S. Gyldenkærne, L. W. Callisen, M. H. Mikkelsen, A. Winding, R. Sapkota,F. R. Dalby, P. Kai, M. Jensen, M. Nørremark,C. F. Børsting, P. Lund, M. H. Kjeldsen, **M. Maigaard**, G. Amorim

Franchi, M. B. Jensen, T. M. Villumsen, M. J. Hansen, H. L. Kristensen, J. V. Nørgaard, A. Bouquet, A. Buitenhuis & H. M. Nielsen. 2024. Virkemidler til reduktion af klimagasser i landbruget - 2024. Rådgivningsrapport fra DCA – Nationalt Center for Fødevarer og Jordbrug, Aarhus Universitet. 375 sider. Leveret: 10.06.2024

Maigaard, M., M. R. Weisbjerg, C. Ohlsson, N. Walker & P. Lund. 2024. Effect of different doses of 3-NOP combined with varying forage composition on methane yield, feed intake, and milk production in dairy cows. Abstracts of the 2024 American Dairy Science Association Annual Meeting. Journal of Dairy Science, 107, suppl 1, p. 149.

Sirinayake Lokuge, G. M., **M. Maigaard**, N. I. Nielsen, L. B. Larsen, P. Lund, L. Wiking & N. A. Poulsen. 2024. Sustainable dairy: Effect of feed additives on milk composition and functionality. ADSA International Partnership Program Symposium - Dairy Research in Denmark, ADSA Annual Meeting - West Palm Beach, USA.

Giagnoni, G., **M. Maigaard**, W. Wang, M. Johansen, P. Lund & M. R. Weisbjerg. 2024. Effect of dairy cows' yield index on the effect of enteric methane reducing dietary treatments. Proceedings of the 12th Nordic Feed Science Conference, Uppsala, Sweden. Uppsala, Sweden: Swedish University of Agricultural Sciences, p. 35-37.

Giagnoni, G., N. C. Friggens, M. Johansen, **M. Maigaard**, W. Wang, P. Lund & M. R. Weisbjerg. 2024. How much can performance measures explain of the between-cow variation in enteric methane? Journal of Dairy Science, 107:4658-4669. DOI: 10.3168/jds.2023-24094

Giagnoni, G., W. Wang, **M. Maigaard**, M. Johansen, P. Lund & M. R. Weisbjerg. 2024. Enteric methane and digestibility: Are these phenotypes correlated in dairy cows. Book of Abstracts of the 75th Annual Meeting of the European Federation of Animal Science. Rome. Wageningen Academic Publicers, p. 570.

Giagnoni, G., W. Wang, **M. Maigaard**, M. Johansen, P. Lund & M. R. Weisbjerg. 2024. How much of the between-cow variation in enteric methane production can performance and digestibility measures explain? Book of Abstracts of the 75th Annual Meeting of the European Federation of Animal Science. Rome. Wageningen Academic Publicers, p. 571.

Thorsteinsson, M. M., **M. Maigaard**, P. Lund, M. R. Weisbjerg & M. O. Nielsen. 2023. Effect of fumaric acid in combination with Asparagopsis taxiformis or nitrate on in vitro gas production, pH, and redox potential. JDS Communications, 4:335-339. DOI: 10.3168/jdsc.2022-0259

Johansen, M., M. **Maigaard** & P. Lund. 2023. Effekten af Bovaer® ved inklusion i foder med høj andel af kløvergræsensilage af forskellig kvalitet. Rådgivningsnotat fra DCA – Nationalt Center for Fødevarer og Jordbrug, Aarhus Universitet. 7 sider. Leveret: 9. oktober 2023."

Johansen, M., **M. Maigaard** & P. Lund. 2023. Effekten af Bovaer® ved inklusion i foderrationer med høj andel af majsensilage med forskellig stivelse-til-NDF-forhold. Rådgivningsnotat fra DCA – Nationalt Center for Fødevarer og Jordbrug, Aarhus Universitet. 7 sider. Leveret: 24. november 2023.

Noel, S. J., **M. Maigaard**, P. Lund & O. Hojberg. 2023. Effect of fat, nitrate and 3-nitrooxypropanol (3-NOP) and their combinations on the rumen microbiota of lactating dairy cows. 13th International Gut Microbiology Symposium, Aberdeen, United Kingdom, p.88-88.

Olijhoek, D., É. Chassé, M. Battelli, M. V. Curtasu, M. M. Thorsteinsson, M. H. Kjeldsen, W. Wang, G.

Giagnoni, **M. Maigaard**, C. F. Børsting, M. R. Weisbjerg, P. Lund & M. O. Nielsen. 2023. Comparison of in vitro and in vivo methane production in dairy cows. 74th Annual Meeting of European Federation of Animal Science - Lyon, France. Wageningen Academic Publicers, p. 1014.

Andersen, M. N., A. P. S. Adamsen, E. M. Hansen, I. K. Thomsen, N. Hutchings, L. Elsgaard, U. Jørgensen, L. J. Munkholm, C. D. Børgesen, P. Sørensen, S. O. Petersen, P. E. Lærke, J. E. Olesen, C. F. Børsting, P. Lund, M. H. Kjeldsen, **M. Maigaard**, T. M. Villumsen, F. R. Dalby, P. Kai, M. Nørremark, G. Blicher-Mathiesen, J. Audet, M. Bruus, P. H. Krogh, B. Kronvang, A. Winding & H. L. Kristensen. 2023. Virkemidler til reduktion af klimagasser i landbruget - 2023. 305 sider. Rådgivningsrapport fra DCA – Nationalt Center for Fødevarer og Jordbrug, Aarhus Universitet, leveret: 28.09.2023.

Maigaard, M., M.R. Weisbjerg, M. Johansen & P. Lund. 2022. Combined Effects of Dietary Fat, Nitrate, and 3-NOP on Dairy Cows' Enteric Methane Emission. Proceedings of the 8th International Greenhouse Gas & Animal Agriculture Conference (GGAA). University of Florida, USA, p. 148.

Maigaard, M., L. Feng, H. B. Møller, M. R. Weisbjerg & P. Lund. 2022. Methane Potential of Manure from Dairy Cows Supplemented with Dietary Fat, Nitrate, and 3-NOP. Proceedings of the 8th International Greenhouse Gas & Animal Agriculture Conference (GGAA). University of Florida, USA, p. 149.

Giagnoni, G., W. Wang, **M. Maigaard**, M. Johansen, P. Lund & M. R. Weisbjerg. 2022. Between-cow response variation to methane mitigation feeding strategies. Animal - Science proceedings, 13:538-539.

Hellwing, A. L. F., **M. Maigaard**, M. O. Nielsen, W. Wang, M. Larsen, M. R. Weisbjerg & P. Lund. 2022. CO2 and CH4 Emissions from Manure in Respiration Chambers are Neglible Compared to Cow´s Emissions. Proceedings of the 8th International Greenhouse Gas & Animal Agriculture Conference (GGAA). University of Florida, USA, p. 105.

Lund, P., M. H. Kjeldsen, **M. Maigaard**, G. Giagnoni, W. Wang, S. J. Noel, D. Olijhoek, A. L. F. Hellwing & M. R. Weisbjerg. 2022. Reduced greenhouse gas emissions in European dairy systems - A status on Danish activities related to methane mitigation. Proceedings: Emission-free dairy: The road to net zero. International Dairy Nutrition Symposium, Wageningen, October 2022. p. 33-38.

Sørensen, M.M. 2022. Fodring med fedt, nitrat og 3-NOP som metanreducerende tilsætningsstoffer, alene og i kombination med hinanden. Rådgivningsnotat fra DCA – Nationalt Center for Fødevarer og Jordbrug, Aarhus Universitet, 9 sider, leveret: 12.05.2022.

Sirinayake Lokuge, G. M., L. B. Larsen, **M. Maigaard**, L. Wiking, P. Lund & N. A. Poulsen. 2022. Combined effect of anti-methanogenic compounds (rapeseeds, nitrate and 3-NOP) on fatty acids in milk. Book of Abstracts of the 73rd Annual Meeting of the European Federation of Animal Science. Wageningen Academic Publishers, p. 407.

Maigaard, M., M.R. Weisbjerg, M. Johansen & P. Lund 2021. Response in blood methemoglobin level in dairy cows supplemented with dietary nitrate. Book of Abstracts of the 72th Annual Meeting of the European Federation of Animal Science, Davos, Switzerland, 30 August - 3 September 2021. Wageningen Academic Publicers. p.201. DOI: 10.3920/978-90-8686-918-3

Lund, P., M. **M. Sørensen**, M. B. Jensen & M. R. Weisbjerg. 2021. Rumen hydrogen metabolism in relation to the use of methane mitigating feed additives such as Bovaer. Advisory memorandum from DCA – Danish Centre for Food and Agriculture, Aarhus University, submitted: 8/12-2021.

Kristensen, T., J. O. Lehmann, M. T. Knudsen, B. F. Pedersen, S. O. Petersen, J. Eriksen, **M. M. Sørensen**, S. Gyldenkærne & M. H. Mikkelsen. 2020. Estimering af national klimaeffekt for omlægning til økologisk jordbrug. DCA - Nationalt Center for Fødevarer og Jordbrug. Århus Universitet. 37 s, Leveret: 04.09.2020