



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE ___ 5927 _____

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at Dipartimento di _ Scienze Agrarie e Ambientali - Produzione, Territorio, Agroenergia _____

Scientist- in - charge: _____ Prof. Crovetto Gianni Matteo _____

[Xiaoxia and Dai]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Dai
Name	Xiaoxia

PRESENT OCCUPATION

Appointment	Structure
MSCA researcher fellow	DiSAA

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree (Laurea Magistrale)	Animal Science / Sustainable Animal Nutrition and Feeding	Wageningen University (NL)/ Aarhus University (DK)	2014
Specialization			
PhD	Animal Science	University of Florida (USA)	2019
Master			
Degree of medical specialization			
Degree of European specialization			
Other			



REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date registration	of	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
English	C2
Chinese	C2

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2018/2019	Graduate School Travel Grant (University of Florida; \$300)
2016/2017	Graduate School Travel Award (University of Nevada-Reno; \$500)
2016/2017	Kleberg Scholarship (\$ 24,000)
2016	Outstanding International Student (\$2,000)
2012 - 2014	European Master Scholarship (€ 64,000)
2010/2011/2012	National scholarship from Ministry of Education of China (€ 1000)
2010	Second place in national mathematical contest in modelling for college student (€ 500)
2021-2023	Grant: MSCA reseach grant (Horizon 2020-MSCA-IF; €128,604.96)
2023-2025	Grant: PSR_Line 4 grant (University of Milan; € 14,000)
2023 - 2026	Grant: BBSRC grant (UK, Royal Veterinary College, University of London; £428,308.91)

TRAINING OR RESEARCH ACTIVITY

<p>description of activity</p> <p>I am a highly accomplished researcher specializing in acidosis, claw horn disruption lesions, and microbial genomics, with a specific focus on improving the physiology and health of dairy cows. With a strong record of publications and extensive research experience, by integrating classical quantitative genetics with various omics approaches (genomics, transcriptomics, metagenomics), wet-lab experiments, and animal trials, my research aims to unravel the pathology, mechanisms, and genomic architecture underlying dairy cow diseases and health. Furthermore, I am keen on discovering novel biomarkers, developing diagnostic tools, and identifying potential targets for drug discovery and feed additives. Additionally, I am deeply interested in exploring the role of small noncoding RNA in the host-microbiome interaction and its impact on health and productivity.</p>

PROJECT ACTIVITY

Year	Project
2021-	Roles of lipopolysaccharide on the pathogenesis of subacute ruminal acidosis in dairy cows



current	
2020-current	Aetiopathogenesis and genomic architecture of resistance to claw horn disruption lesions in dairy cattle.
2020-current	"One Health Poultry Hub": Omics based characterization of host genetics and gut microbiome composition of different breeds of chicken with pathogen abundance.
2019 - current	Relationship between feed efficiency and ruminal microbiome, digestibility, metabolic activity and genetics of lactating cows fed high- and low-starch diets.
2015 - 2019	Role of ruminal microbes on the feed digestion and ruminal acidosis.
2016	Effects of camelina seed supplementation on ruminal bacterial community composition in a dual-flow continuous culture system.
2014	Effects of replacement of late-harvested grass silage and barley with early-harvested silage on ruminal digestion efficiency in dairy cows.
2013	Effects of DHA and nitrate supplementation on the SCD1 and elongase gene expressions in mammary epithelial cells purified from milk of lactating cows.

PATENTS

Patent

CONGRESSES AND SEMINARS

Date	Title	Place
2023	"Champion Dairyman Project - International Experience": Effect of lipopolysaccharide on the pathogenesis of subacute ruminal acidosis	Beijing, China
2022	WCGALP: Transcriptomic characterization of claw horn disruption lesions in the peripheral blood leucocytes of dairy cattle	Rotterdam, NL
2022	WCGALP: Genome-wide association studies of chicken caecal microbiota.	Rotterdam, NL
2021	American society Animal Science (ASAS): Liver transcriptome analysis reveals important genes involved in the feed efficiency of lactating cows fed a high and low starch diet.	Louisville, Kentucky, USA
2021	American Dairy Science Association (ADSA): Mammary gland transcriptome analysis reveals important genes involved in the milk energy efficiency of lactating cows fed a high and low starch diet	Virtual meeting; USA
2020	ADSA: Effects of residual feed intake on nutrient digestion and milk production for lactating Holstein cows fed high and low starch diets	Virtual meeting; USA



2019	ADSA: Lipopolysaccharide stimulates growth of bacteria that contribute to rumen acidosis.	Cincinnati, Ohio, USA
2018	ADSA: Effects of lipopolysaccharide dosing on ruminal fermentation in a dual-flow continuous culture system.	Knoxville, Tennessee, USA

PUBLICATIONS

Books
[title, place, publishing house, year ...]
[title, place, publishing house, year ...]
[title, place, publishing house, year ...]

Articles in reviews
B. Li, M. Barden, V. Kapsona, E. Sánchez-Molano, A. Anagnostopoulos, B. E. Griffiths, C. Bedford, X. Dai, M. Coffey, A. Psifidi, G. Oikonomou, G. Banos. 2023. Single-step genome-wide association analyses of claw horn lesions in Holstein cattle using linear and threshold models. <i>Genet Sel Evol</i> 55, 16 (2023). https://doi.org/10.1186/s12711-023-00784-4
Dai, X., K.F. Kalscheur, P. Huhtanen and A.P. Faciola. 2022. Effects of ruminal protozoa on methane emissions in ruminants—A meta-analysis. <i>J. Dairy Sci.</i> 102:334-350. https://doi.org/10.3168/jds.2021-2113
Fischer, A., X. Dai and K. F. Kalscheur, 2022. Feed efficiency of lactating Holstein cows is repeatable within diet but less reproducible when changing dietary starch and forage Concentrations. <i>Animal.</i> 16:8. https://doi.org/10.1016/j.animal.2022.100599
Arce-Cordero, J. A., P. Fan, H. F. Monteiro, X. Dai, K. C. Jeong, and A. P. Faciola, 2022. Choline chloride effects on the ruminal microbiome at two dietary neutral detergent fiber concentration in continuous culture. <i>Journal of Dairy Science.</i> 105(5): 4128-4143. https://doi.org/10.3168/jds.2021-21591
Monteiro, H. F., A. L. J. Lelis, P. Fan, B. C. Agustinho, R. R. Lobo, J. A. Arce-Cordero, X. Dai, K. C. Jeong, and A. P. Faciola. 2021. Effects of lactic acid-producing bacteria as direct-fed microbials on the ruminal microbiome. <i>Journal of Dairy Science.</i> 105(3):2242-2255. https://doi.org/10.3168/jds.2021-21025
Arce-Cordero, J. A., H. F. Monteiro, V. L. N. Brandao, X. Dai, S. L. Bennett, and A. P. Faciola. 2021. Effects of calcium-magnesium carbonate and calcium-magnesium hydroxide as supplemental sources of magnesium on microbial fermentation in a dual-flow continuous culture. <i>Translational Animal Science</i> , Doi: 10.1093/tas/txaa229
Dai, X., T. J. Hackmann, R. R. Lobo and A. P. Faciola. 2020. Lipopolysaccharide stimulates growth of bacteria that contribute to rumen acidosis. <i>Applied Environmental Microbiology</i> . DOI: 10.1128/AEM.02193-19
Dai, X. and A. P. Faciola. 2019. Evaluating the strategies to reduce ruminal protozoa and their impacts on nutrient utilization and animal performance in ruminants - A meta-analysis. <i>Front. Microbiol.</i> Doi: 10.3389/fmicb.2019.02648
Lin, M. *, X. Dai* and P. J. Weimer. 2019. Shifts in fermentation end products and bacterial community composition in long-term, sequentially transferred in vitro ruminal enrichment cultures fed switchgrass with and without ethanol as a co-substrate. * Both authors contributed equally to this work). <i>Bioresour Technol.</i> 285-121324. Doi: 10.1016/j.biortech.2019.121324



Dai, X., E. M. Paula, A. L. J. Lelis, L. G. Silva, V. L. N. Brandao, H. F. Monteiro, P. Fan, S. R. Poulson, K. C. Jeong, and A. P. Faciola. 2019. Effects of lipopolysaccharide dosing on bacterial community composition and fermentation in a dual-flow continuous culture system. <i>J. Dairy Sci.</i> 102:334-350. doi: 10.3168/jds.2018-14807
Monteiro, H. F., A. L. J. Lelis, V. L. N. Brandao, A. Faccenda, A. S. Avila, J. Arce-Cordero, L. G. Silva, X. Dai, R. Restelatto, P. Carvalho, L. R. Lima, and A. P. Faciola. 2019. In vitro evaluation of <i>Lactobacillus plantarum</i> as direct-fed microbials in high-producing dairy cows diets. <i>Translational Animal Science</i> . Doi: 10.1093/tas/txz187
Paula, E. M., L. G. Silva, V. L. N. Brandao, X. Dai, A. P. Faciola. 2019. Feeding canola, camelina, and carinata meals to ruminants. <i>Animals</i> 2019, 9(10): 704. doi: 10.3390/ani9100704.
Brandao, V., L. G. Silva, E. M. Paula, H. Monteiro, X. Dai, A. L. J. Lelis, A. Faccenda, S. Poulson, and A. P. Faciola. 2018. Effects of replacing canola meal with solvent extracted camelina meal on microbial fermentation in a dual-flow continuous culture system. <i>J. Dairy Sci.</i> 101:9028-9040. doi: 10.3168/jds.2018-14826
Brandao, V. L. N., X. Dai, E. M. Paula, L. G. Silva, M. I. Marcondes, T. Shenkoru, S. Poulson, and A. P. Faciola. 2018. Effect of replacing calcium salts of palm oil with camelina seed at two dietary ether extract levels on digestion, ruminal fermentation and nutrient flow in a dual-flow continuous culture system. <i>J. Dairy Sci.</i> 101: 5046-5059. doi: 10.3168/jds.2017-13558.
Silva, L. G., C. B. Sampaio, E. M. Paula, T. Shenkoru, V. L. N. Brandao, X. Dai, B. Perryman, and A. P. Faciola. 2018. Nutritional evaluation and ruminal fermentation patterns of kochia compared to alfalfa and orchardgrass hays and ephedra and cheatgrass compared to orchardgrass hay as alternative arid-land forage for beef cattle in two dual-flow continuous culture system experiments. <i>J. Anim. Sci.</i> 2018.96(2): 705-714. doi: 10.1093/jas/skx071.
Dai, X., P. J. Weimer, K. A. Dill-McFarland, V. L. N. Brandao, G. Suen, and A. P. Faciola. 2017. Camelina seed supplementation at two dietary fat levels changes ruminal bacterial community composition in a dual-flow continuous culture system. <i>Front. Microbiol.</i> 8:2147. doi: 10.3389/fmicb.2017.02147

Congress proceedings
Dai, X., K. Kalscheur, P. Huhtanen, and A. Faciola. 2020. Effects of ruminal protozoa on methane emissions in ruminants - a meta-analysis.; ASAS; Virtual Meeting; USA
Dai, X. and K. Kalscheur, 2020. Effects of bag pore size and sample size on feed and fecal indigestible neutral detergent fiber concentration in dairy cows; ASAS; Virtual Meeting; USA
Dai, X. and A. P. Faciola. 2019. Evaluating strategies to reduce ruminal protozoa and their impacts on nutrient utilization and animal performance in ruminants: A meta-analysis. ADSA; Cincinnati, Ohio, USA
Dai, X., E. M. Paula, A. L. J. Lelis, L. G. Silva, V. L. N. Brandao, H. F. Monteiro, P. Fan, S. R. Poulson, K. C. Jeong, and A. P. Faciola. 2018. Effects of lipopolysaccharide dosing on bacterial community composition in a dual-flow continuous culture system.; ADSA; Knoxville, Tennessee, USA
Dai, X., P. J. Weimer, K. A. Dill-McFarland, V. L. N. Brandao, L. G. Silva, E. M. Paula, T. Shenkoru, G. Suen, and A. P. Faciola. 2017. Dietary camelina cake changes the ruminal bacterial community compositions in a dual-flow continuous culture system. ADSA; Pittsburgh, Pennsylvania. USA

OTHER INFORMATION

Teaching assistant <ul style="list-style-type: none">○ Rumen functions: September 2022, University of Milan, Italy
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- Animal Sciences 6905, Applied Statistics in Animal Sciences: August - December 2018
- Animal Sciences 406/606, Advanced Nutrition Management: August 2015 - December 2015; August 2016 - December 2016

Workshop teaching

- Training in silico CTLGH: May 2021, Royal veterinary College, University of London
- RNA-seq data analysis from the beginning to the interpretation, 2021, RVC, University of London
- 16S rRNA sequencing data analysis of rumen bacteria, 2016, University of Nevada - Reno

Reviewer:

Frontier in Microbiology, Frontier in Genetics (Editor board), Frontier in Veterinary Science (Editor board), Scientific Report, Animals (Review board), Ruminants, Fermentation, Animal, Animal Nutrition, Animal Feeds and Technologies, Journal of Dairy Science.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: ____Bergamo_____, ____5-11-2023_____