



ALLA MAGNIFICA RETTRICE
DELL'UNIVERSITA' DEGLI STUDI DI MILANO

COD. ID: A025

Il sottoscritto chiede di essere ammesso a partecipare alla selezione pubblica, per titoli ed esami, per il conferimento di un assegno di ricerca presso il Dipartimento di Scienze per gli Alimenti, la Nutrizione e l'Ambiente

Responsabile scientifico: Prof. Bulgari Daniela

Natalia de Andrade Teixeira Fernandes

CURRICULUM VITAE

INFORMAZIONI PERSONALI

Cognome	De Andrade Teixeira Fernandes
Nome	Natalia

OCCUPAZIONE ATTUALE

Incarico	Struttura
Postdoctoral Researcher	University of California, Berkeley - 12/06/2023-30/11/2024

ISTRUZIONE E FORMAZIONE

Titolo	Corso di studi	Università	anno conseguimento titolo
Dottorato Di Ricerca	Agricultural Microbiology	Universidade Federal de Lavras	2021
Diploma Di Specializzazione Medica			
Laurea Magistrale o equivalente			
Master	Agricultural Microbiology	Universidade Federal de Lavras	2018
Altro	BSc in Biology	UniAcademia Juiz de Fora	2015

ISCRIZIONE AD ORDINI PROFESSIONALI

Data iscrizione	Ordine	Città



LINGUE STRANIERE CONOSCIUTE

lingue	livello di conoscenza
Portoghese	Mother language
English	Fluent

PREMI, RICONOSCIMENTI E BORSE DI STUDIO

anno	Descrizione premio
2013	Best work of the XXXVI Biology Week and XIX UFJF scientific production show. "Insecticidal property of thymol on larvae and pupae of <i>Musca domestica</i> Linnaeus, 1758"
2019	Best work of the International Symposium on Agricultural Microbiology (SIMA). "Biosurfactant produced by yeast with larvicidal properties"
2019	CAPES-PrInt, Brazilian government award for exceptional Ph.D. students to study abroad for a period, Funded by CAPES (2019-2020). University of California, Berkeley

ATTIVITÀ DI FORMAZIONE O DI RICERCA

descrizione dell'attività
<u>PEDAGOGIC TRAINING</u>
<ul style="list-style-type: none">• General Didactics, 2013• Didactics and Instrumentation in Science and Biology, 2014• Supporting Students with Disabilities by Making Course Materials Accessible, 2024• Lectures Out, Active Learning In? How About Somewhere in Between? 2024• Choosing the Right Active Learning Strategies, 2024• Active Learning in Large Classes: What's possible? 2024• Hands-on workshop: Pathways to scientific teaching, 2024• Teaching & Learning Conference, 2024
<u>LEADERSHIP AND MANAGEMENT</u>
<ul style="list-style-type: none">• Hands-on: Scientific Leadership and Management Skills Course, 2024

ATTIVITÀ PROGETTUALE

Anno	Progetto
2014-2015	Responsible for research activities - Evaluation of Bacterial Dynamics in Continuous Biodigesters Using Bovine Manure During Winter and Summer Phases. Rumen microbiology



	laboratory Embrapa, Juiz de Fora MG
2016-2018	Principal researcher - Uses of glicolipidic biosurfactant produced by the yeast <i>Wickerhamomyces anomalus</i> CCMA 0358. Department of Biology, Universidade Federal de Lavras, Lavras MG - Brazil
2018-2021	Principal researcher - Gene expression of the yeast <i>Wickerhamomyces anomalus</i> CCMA 0358 during biosurfactant production using kitchen waste oil as substrate and identification of bacteria present in tea tissue culture (<i>Camellia sinensis</i>) through metagenomics analysis. Department of Biology, Universidade Federal de Lavras, Lavras MG - Brazil
2019-2020	Visiting scholar - Chemical and Biological evaluation of biosurfactant fractions from <i>Wickerhamomyces anomalus</i> CCMA 0358. Department of Chemistry, University of California, Davis, Davis CA - USA
2020-2022	Principal researcher - Microorganisms associated with tea plants and their potential applications in improving tea production and tissue culture cultivation; Chemical compounds in tea plants across different cultivation methods and processing techniques. Department of Chemistry, University of California, Davis, Davis CA - USA
2022-2023	Principal researcher - Applied chromatography and mass spectrometry to analyze chemical changes in coffee bean compounds during roasting, with a specific focus on polyphenols and flavonols. Department of Chemical Engineering, University of California, Davis, Davis CA - USA
2023-2024	Principal researcher - BIOMADE Project: Extraction and analysis of saponins from <i>Quillaja saponaria</i> , with a focus on refining chromatography methods for detecting QS-21, a key saponin used in vaccine production, and isolating saponins for food application purposes. College of Chemistry, University of California, Berkeley, Berkeley CA - USA

TITOLARITÀ DI BREVETTI

Brevetto

CONGRESSI, CONVEGNI E SEMINARI

Data	Titolo	Sede
2013	Insecticidal property of thymol on larvae and pupae of <i>Musca domestica</i> Linnaeus, 1758 (DIPTERA: MUSCIDAE)	XXXVI Biology Week and XIX UFJF scientific production show, Juiz de Fora MG - Brazil
2013	Genetic variability of <i>Brachiaria ruziziensis</i> clones for resistance to <i>Mahanarva spectabilis</i> (Hemiptera: Cercopidae)	Embrapa Conference, Juiz de Fora MG - Brazil
2014	Bacterial Dynamics In The Anaerobic Biodigestion Of Swine Waste In The	Sigera, Rio de Janeiro RJ - Brazil



	Autumn/Winter Period	
2014	Bacterial Dynamics In Anaerobic Biodigestion Of Bovine Waste In The Autumn/Winter Period	Sigera, Rio de Janeiro RJ - Brazil
2015	Dynamics of Biodigestors Bacterial Supplied with Swine Waste in Summer Period	28° Cbm 2015 - Isbn: 978-85-5522-026, Florianopolis SC - Brazil
2015	Analysis of Physical and Chemical Waste in Swine Digesters Solid in Summer Period	28° Cbm 2015 - Isbn: 978-85-5522-026-5, Florianopolis SC - Brazil
2017	Isolation and Identification of Bacteria from Bovine Deject	VIII Latin American Congress, XIV Brazilian Congress of Food Hygienists and Vi Meeting of The Brazilian System for Inspection of Products of Animal Origin, Foz do Iguacu PR - Brazil
2017	Isolation And Characterization of Yeasts from Chicha, A Fermented Drink from Colombia	VIII Latin American Congress, XIV Brazilian Congress of Food Hygienists and Vi Meeting of The Brazilian System for Inspection of Products of Animal Origin, Foz do Iguacu PR - Brazil
2019	Physico-chemical characterization of alcoholic fermented from Jaboticaba (<i>Myrciaria jaboticaba</i> Berg)	IX Latin American Congress, XV Brazilian Congress of Food Hygienists and Vi Meeting of The Brazilian System for Inspection of Products of Animal Origin, Maceio AL - Brazil
2019	Biosurfactant produced by yeast with larvicidal properties	International Symposium on Agricultural Microbiology (SIMA), Lavras MG - Brazil
2019	Determination of the surface tension of different substrates in the biosurfactant fermentation process	International Symposium on Agricultural Microbiology (SIMA), Lavras MG - Brazil
2019	Evaluation of biofilm inhibition by biosurfactant	International Symposium on Agricultural Microbiology (SIMA), Lavras MG - Brazil
2019	Potential surfactant of crude extract produced by yeast	International Symposium on Agricultural Microbiology (SIMA), Lavras MG - Brazil
2019	Antibacterial activity of biosurfactant	International Symposium on Agricultural Microbiology (SIMA), Lavras MG - Brazil
2019	Antifungal activity of biosurfactant produced by yeast	International Symposium on Agricultural Microbiology (SIMA), Lavras MG - Brazil
2019	INVITED TEACHER: Course - Microbial Metabolites and Applications	Biology Week, Juiz de Fora MG - Brazil
2022	Antibacterial activity of an eco-friendly	ASC Spring, San Diego CA - USA



	biosurfactant produced by yeast	
2022	INVITED TALK: Kinetics in Coffee Roasting, Chemical Analysis	Coffee Center Symposium, Davis CA - USA
2022	INVITED TALK: Cascara Jelly and Syrup: Chemical Analysis	Coffee Center Symposium, Davis CA - USA
2022	INVITED TALK: Kinetics in Coffee Roasting, Chemical Analysis	Global Tea Institute, Davis CA - USA
2023	INVITED TALK: Dynamics of Roasting, Physical and Chemical Analysis	PROBAT, Emerich - Germany
2024	INVITED TALK: Centrifugal Partition Chromatography	BioMADE Member Meeting, Minneapolis, USA

PUBBLICAZIONI

Monografie
Masters Thesis: Uses of glycolipidic biosurfactant produced by the yeast <i>Wickerhamomyces anomalus</i> CCMA 0358. http://repositorio.ufla.br/handle/1/29337
PhD Dissertation: Gene expression of the yeast <i>Wickerhamomyces anomalus</i> CCMA 0358 during biosurfactant production using kitchen waste oil as substrate and identification of bacteria present in tea tissue culture (<i>Camellia sinensis</i>) through metagenomics analysis. http://repositorio.ufla.br/jspui/handle/1/46439
Fernandes, N.A.T., Simões, L.A., Dias, D.R. (2023). Comparison of Biodegradability, and Toxicity Effect of Biosurfactants with Synthetic Surfactants. In: Aslam, R., Mobin, M., Aslam, J., Zehra, S. (eds) <i>Advancements in Biosurfactants Research</i> . Springer, Cham. https://doi.org/10.1007/978-3-031-21682-4_6
Simões, L.A., Fernandes, N.A.T., dos Santos Junior, N.A., Dias, D.R. (2023). Biosurfactants and Their Benefits for Seeds. In: Aslam, R., Mobin, M., Aslam, J., Zehra, S. (eds) <i>Advancements in Biosurfactants Research</i> . Springer, Cham. https://doi.org/10.1007/978-3-031-21682-4_16
Fernandes, N. A. T., Simões, L. A., Souza, A. C., & Dias, D. R. (2024). Insecticidal potential of biosurfactants. In <i>Industrial Applications of Biosurfactants and Microorganisms</i> (pp. 341-354). Academic Press. https://doi.org/10.1016/B978-0-443-13288-9.00006-1
de Souza, A. C., Silva, M. S., Simões, L. A., Fernandes, N. A. T., Schwan, R. F., & Dias, D. R. (2024). Advantages of biosurfactants over petroleum-based surfactants. In <i>Industrial Applications of Biosurfactants and Microorganisms</i> (pp. 371-393). Academic Press. https://doi.org/10.1016/B978-0-443-13288-9.00002-4
Simões, L. A., Fernandes, N. A. T., de Souza, A. C., & Dias, D. R. (2024). Biosurfactants for environmental health and safety. In <i>Industrial Applications of Biosurfactants and Microorganisms</i> (pp. 407-424). Academic Press. https://doi.org/10.1016/B978-0-443-13288-9.00003-6

Articoli su riviste
Fernandes, N. D. A. T., de Souza, A. C., Simões, L. A., Dos Reis, G. M. F., Souza, K. T., Schwan, R. F., & Dias, D. R. (2020). Eco-friendly biosurfactant from <i>Wickerhamomyces anomalus</i> CCMA 0358 as larvicidal and antimicrobial. <i>Microbiological Research</i> , 241, 126571. https://doi.org/10.1016/j.micres.2020.126571



Simões, L., Fernandes, N. , de Souza, A., dos Santos, L., Magnani, M., Abrunhosa, L., & Dias, D. R. (2022). Probiotic and antifungal attributes of lactic acid bacteria isolated from naturally fermented Brazilian table olives. <i>Fermentation</i> , 8(6), 277. https://doi.org/10.3390/fermentation8060277
Simões, L. A., Fernandes, N. D. A. T. , de Souza, A. C., Torres, L. M., da Silva, L. F. D. O., Schwan, R. F., & Dias, D. R. (2022). Revealing the microbial diversity and physicochemical characteristics of Brazilian untreated green table olives. <i>Journal of Applied Microbiology</i> . https://doi.org/10.1093/jambio/lxac043
Fernandes, N. , Rose, A., Simoes, L., Dias, DR. (2023) Chemical and Biological evaluation of biosurfactant fractions from <i>Wickerhamomyces anomalus</i> CCMA 0358. <i>Applied Microbiology and Biotechnology</i> . https://doi.org/10.1007/s00253-023-12811-x
Fernandes, N. D. A. T. , Simões, L. A., & Dias, D. R. (2023). Biosurfactants Produced by Yeasts: Fermentation, Screening, Recovery, Purification, Characterization, and Applications. <i>Fermentation</i> , 9(3), 207. https://doi.org/10.3390/fermentation9030207
Simões, L., Fernandes, N. , Teixeira, J., Abrunhosa, L., & Dias, D. R. (2023). Brazilian table olives: A source of lactic acid bacteria with antimycotoxigenic and antifungal activity. <i>Toxins</i> , 15(1), 71. https://doi.org/10.3390/toxins15010071
e Andrade, D. P., Bastos, S. C., Ramos, C. L., Simões, L. A., Fernandes, N. D. A. T. , Botrel, D. A., ... & Dias, D. R. (2023). Microencapsulation of presumptive probiotic bacteria <i>Lactiplantibacillus plantarum</i> CCMA 0359: technology and potential application in cream cheese. <i>International Dairy Journal</i> , 105669. https://doi.org/10.1016/j.idairyj.2023.105669
Resende DB, Simões LA, Teixeira Fernandes NdA , Luvizaro LB, Dias MV, Carvalho DT, Piccoli RH, Schwan RF and Dias DR (2023), Characterization of antimicrobial and antioxidant performance of dihydroeugenol and its glycoside incorporated into whey protein isolate films. <i>Front. Food. Sci. Technol.</i> 3:1237638. https://doi.org/10.3389/frfst.2023.1237638
Simões, L., Fernandes, N. , Caputo, L., Ramos, E. M., & Piccoli, R. H. (2023), Natural preservatives for hams: Essential oil mixtures and major compounds' efficacy against <i>Clostridium sporogenes</i> . <i>Journal of Food Safety</i> , e13085. https://doi.org/10.1111/jfs.13085
Anokye-Bempah, L., Styczynski, T., Fernandes, N.A.T. , Gervay-Hague, J., Ristenpart, W., Donis-González, I. (2024), The Effect of Roast Profiles on the Dynamics of Titratable Acidity during Coffee Roasting. <i>Scientific Reports</i> , 14, 8237. https://doi.org/10.1038/s41598-024-57256-y
Fernandes, N.A.T. , Simoes, L.A., Dias, D.R. (2024), Exploring the Genetic Expression of <i>Wickerhamomyces anomalus</i> during Biosurfactant Production from Waste Cooking Oil. <i>Journal of Applied Microbiology</i> . https://10.1093/jambio/lxae300
e Brito de Paula, M.S., Fernandes, N.A.T. , Simoes, L.A., Fernandes, M.L.P. , Schwan, R.F. and Dias, D.R. (2024), Sustainable Sweeteners: Unveiling Biotechnological Promise of Novel Yeast Strains for Low-Calorie Sweetener Production. <i>Applied Biochemistry and Microbiology</i> . Approved, waiting for DOI.

Atti di convegni
Souza, C.S.; Fernandes, N. A. T. ; Fernandes ; Lima, J. C. F.; Ribeiro, M. T.; Carneiro, J. C.; Otenium, M. H. Dynamics of Biodigestors Bacterial Supplied with Swine Waste in Summer Period, 2015, Florianópolis. Annals of 28° Cbm 2015 - Isbn: 978-85-5522-026-5, 2015.
Fernandes, N. A. T. ; Souza, C.S.; Lima, J. C. F.; Ribeiro, M. T.; Carneiro, J. C.; Otenium, M. H. Analysis of Physical and Chemical Waste in Swine Digesters Solid in Summer Period, 2015, Florianópolis. Annals of 28° Cbm 2015 - Isbn: 978-85-5522-026-5, 2015.
Souza, C.S.; Otênio, M. H.; Lima, J. C. F.; Ribeiro, M. T.; Fernandes, N. A. T. ; Jaguaribe, L.L.; Fernandes A. J.; Sozzi, J. R.; Carneiro, J. C. Bacterial Dynamics In The Anaerobic Biodigestion Of Swine Waste In The Autumn/Winter Period, 2014, Rio De Janeiro. Http://Www.Sbera.Org.Br/4siger/Files/Anais_lvsigera.Pdf , 2015.
Fernandes, N. A. T. ; Lima, J. C. F.; Ribeiro, M. T.; Jaguaribe, L.L.; Fernandes A. J.; Sozzi, J. R.; Souza,



C.S.; Carneiro, J. C.; Otenium, M. H. Bacterial Dynamics In Anaerobic Biodigestion Of Bovine Waste In The Autumn/Winter Period, 2014, Rio De Janeiro. [Http://Www.Sbera.Org.Br/4sigera/Files/Anais_Ivsigera.Pdf](http://Www.Sbera.Org.Br/4sigera/Files/Anais_Ivsigera.Pdf), 2015.

ALTRE INFORMAZIONI

TEACHING HISTORY

Federal University of Lavras, Food Sciences Department, Lavras, Brazil

Instructor, Food Microbiology (Lecture), 2019-2019

Federal University of Lavras, Food Sciences Department, Lavras, Brazil

Instructor, Food Microbiology (Lab), 2018-2019

Federal University of Lavras, Department of Biology, Lavras, Brazil

Teaching Assistant, General Microbiology (Lab), 2016-2017 and 2018-2019

Sao Matheus School, High School, Juiz de Fora, Brazil

Teaching Assistant, Biology, 2014-2015

UNDERGRADUATE STUDENTS' ADVISOR

Isabela Souza - 2017-2018

Raylin Huang - 2021-2022

Anna Quinley - 2021-2022

Lauren Levia - 2022-2023

Lynn Zeng - 2023-2024

Keelin Hunt - 2023-2024

Udayiaa Bommudurai - 2024-2024

Angelina Izmaylova - 2024-2024

Xavier Albors - 2024-2024

SERVICE

Service to the Scientific Community

- **Reviewer for International Journals**
 - International Journal of Biological Macromolecules
 - Brazilian Journal of Microbiology
 - Systems Microbiology and Biomanufacturing

Service to the University

- University of California, Davis, Lab Safety Officer, 2021-2023
- Federal University of Lavras, Treasurer of the Study Group on Fermentations, 2019
- Federal University of Lavras, Vice President of the Study Group on Fermentations, 2018



GRANTS

NSF-ICORPS, Accelerated tea growing platforms, Funded by NSF (\$ 50,000.00), 2022-2022

CAPES-PrInt, Brazilian government award for exceptional Ph.D. students to study abroad for a period, Funded by CAPES (\$ 15,000.00), 2019-2020

PROFESSIONAL EXPERIENCE

University of California, Berkeley, College of Chemistry, Berkeley, USA

Postdoctoral Researcher June 2023-November 2024

University of California, Davis, Chemical Engineering Department, Davis, USA

Postdoctoral Researcher June 2022- June 2023

University of California, Davis, Chemistry Department, Davis, USA

Postdoctoral Researcher June 2021- May 2022

University of California, Davis, Chemistry Department, Davis, USA

Visiting Scholar, Dec 2019- May 2021

Federal University of Lavras, Department of Food Sciences, Lavras, Brazil

Lecturer 2019-2019

Embrapa Dairy Cattle, Rumen Microbiology Lab, Juiz de Fora, Brazil

Intern 2014-2015

Federal University of Juiz de Fora, Animal Behavior Department, Juiz de Fora, Brazil

Intern 2013-2014

Embrapa Dairy Cattle, Entomology Lab, Juiz de Fora, Brazil

Intern 2013-2013

Federal University of Juiz de Fora, Ectoparasitic Arthropods Lab, Juiz de Fora, Brazil

Intern 2012-2012

Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli artt. 46 e 47 del DPR n. 445/2000.

Il presente curriculum, non contiene dati sensibili e dati giudiziari di cui all'art. 4, comma 1, lettere d) ed e) del D.Lgs. 30.6.2003 n. 196.

RICORDIAMO che i **curricula SARANNO RESI PUBBLICI** sul sito di Ateneo e pertanto si prega di non inserire dati sensibili e personali. Il presente modello è già precostruito per soddisfare la necessità di pubblicazione senza dati sensibili.



UNIVERSITÀ DEGLI STUDI DI MILANO

Si prega pertanto di **NON FIRMARE** il presente modello.

Luogo e data: Lambari, 19/12/2024