Alan Emanuel Silva Cerqueira

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Summary

PhD in Agricultural Microbiology at the Federal University of Viçosa - Brazil.
Master in Agricultural Microbiology by the Federal University of Viçosa - Brazil
Graduation in Biological Sciences by the Federal University of Bahia

Civil name

Full name Alan Emanuel Silva Cerqueira

Personal Information

Name used in Bibliographic Citations CERQUEIRA, A. E. S.; CERQUEIRA, A.E.S.; CERQUEIRA, ALAN EMANUEL SILVA

Gender male

Race Brown

Parental information Manoel dos Santos Cerqueira Filho and Maria Auxiliadora Silva Cerqueira

Birth information Sep/09/1989 - Salvador/BA - Brazil

Identification document 020.912.115-75

Residential Address 87 Alvaro Gouveia St, Centro - Viçosa – Minas Gerais – Brazil. Zip Code- 36570027Phone number: +55 31 992000450

Professional Address Federal University of Viçosa (Universidade Federal de Viçosa), Laboratory of Applied Environmental Microbiology - Laboratório de Microbiologia Ambiental Aplicada (LAMAP) Campus Universitário - Viçosa 36570900, MG - Brazil
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Formal Education

2016 - 2021

PhD in Agricultural Microbiology.
Universidade Federal de Viçosa (Federal University of Vicosa), UFV, Vicosa, Brazil
with **Sandwich Doctorate (exchange period)** in University of Texas at Austin (Advisor: Nancy Ann Moran) from January to October 2021.
Title of PhD Dissertation: Stingless bees associated microbiota: diversity, composition, and response to environmental impacts.
Date of degree completion: July 22, 2021
Advisor: Dr. Cynthia Canêdo da Silva
Co-adviser: Dr. Weyder Cristiano Santana
Scholarship from: National Council for Scientific and Technological Development (CNPq)/ Coordination for the Improvement of Higher Education Personnel (CAPES)
Knowledge areas: Bee Microbiome, Microbiology, Metabarcoding, Metagenome, Bioinformatics

2014 – 2016

Master's in Agricultural Microbiolgogy
Universidade Federal de Viçosa (Federal University of Viçosa), UFV, Vicosa, Brazil
Title of Master Thesis: Fungal diversity in forest and pasture soils from the Amazon Basin and their potential for the biocontrol of phyopathogens,
Date of degree completion: July, 2016
Adviser: Dr. Cynthia Canêdo da Silva
Co-adviser: Dr. Maria Catarina Megumi Kasuya
Scholarship from: Coordination for the Improvement of Higher Education Personnel (CAPES)
Knowledge areas: Soil Microbiology, Metabarcoding, Metagenome Bioinformatics, Biological Control
areas: Soil Microbiology, Metabarcoding, Metagenome Bioinformatics, Biological Control

2008 – 2013

Graduation in Biological Sciences (Bachelor)
Federal University of Bahia, UFBA, Salvador, Brazil
Title of the Undergraduate Thesis: Characterization of Passion Fruit (*Passiflora edulis* f. *flavicarpa* Deg.) Culture in Brazil and Prospection of Postharvest and Seeds Fungi in Bahia,
Year of degree: 2013
Adviser: Msc. Maria Zélia Alencar de Oliveira
Co-advisor: Dr. Cristiane de Jesus Barbosa
Knowledge areas: Plant Pathology, Fungi Isolation from seeds, fruits, leaves etc.

2007 - 2008

Incomplete Graduation in Biological Sciences
State University of Feira de Santana, UEFS, Feira De Santana, Brazil Year of
Interruption: 2008

Professional Experience

1. University of Texas at Austin - UT Austin

08/2020 – 09/2020

Position: Consultant, Working hours: 120. Job description: As a consultant I performed bioinformatics analyses of microbial symbiont communities that live in bee hosts. In addition, I participated in the communication of these results by writing and making figures for the research paper to be submitted to a scientific journal.

2. Federal University of Viçosa - UFV

03/2017 – 07/2017

Position: Teaching intern in the lecture Soil Microbiology, Working hours (weekly): 4, Job description: Teaching Assistant. Monitoring students in Practical Soil Microbiology Techniques, Application, and correction of exams during the first academic semester of 2017.

08/2015 – 12/2015

Position: Teaching intern in the lecture General Microbiology, Working hours (weekly): 4, Job description: Teaching Assistant. Teaching Practical Microbiology Techniques, Application, and correction of exams, during the second academic semester of 2015.

3. National Center for Cassava and Tropical Fruit Research - EMBRAPA

08/2013 – 07/2014

Position: Scholarship holder of the PIBIC – Institutional Program of Scientific Initiation Scholarships of the National Center for Cassava and Tropical Fruit Research of EMBRAPA - Brazilian Agricultural Research Corporation., Working hours (weekly): 20 Job description:Internship performed in the Laboratory of Plant Pathology of EBDA - Bahia Company of Agricultural Development, at the project "Bahia Passiflora Network: Biotechnological and Sustainable Management Studies of Passion Fruit Virus and Fusariosis". Research on passion fruit seed health; assistance to the phytopathological clinic through the application of laboratory techniques for the identification of phytopathogens from seeds, stem and other plant components; Performing laboratory maintenance activities such as cleaning, sterilization of materials etc.

4. Bahian Company of Agricultural Development – EBDA

04/2012 – 07/2013

Position: Scholarship holder undergraduate professional internship, Working hours (weekly): 20. Job description: Research on passion fruit seed health; assistance to the phytopathological clinic through the application of laboratory techniques for the identification of phytopathogens from seeds, stem and other plant components; Performing laboratory maintenance activities such as cleaning, sterilization of materials etc.

5. Faculty of Science and Mathematics - University of Nis - Serbia

08/2012 – 10/2012

Position: undergraduate research/professional internship, Working hours (weekly): 40. Job Description: Support for ongoing researches in Hydrobiology, Microbiology, Tissue Culture, Insect Taxonomy (biological control), Biogeography (field practice), Biotechnology and Systematic Botany

6. Clean Technology Network– Department of Environmental Engineering - Federal University of Bahia – TECLIM/UFBA

06/2010 – 06/2013

Position: undergraduate volunteer research internship. Job Description: Research support to the project “Survey and analysis of the human urine production at the Federal University of Bahia for nutrient reuse and rational use of water purposes”. Quantification and qualification of reactive nitrogen inputs and outputs at Ondina Campus / UFBA. Research on the fields of: Sustainable Universities, Nitrogen Cycle, Energy and Environment.

7. **Group of Studies of Foraminifera – Federal University of Bahia – GEF/UFBA**

05/2012 – 10/2012

Position: undergraduate volunteer research internship, Working hours (weekly): 20, Job Description: Research support in the characterization of estuaries based on foraminifera fauna at the project: “Characterization of the Jaguaripe and Paraguaçu rives estuaries based on foraminifera fauna and natural and anthropic environmental factors: protocol of analyzes for the estuaries of Bahia”. Main activities: Sample preparation (cleaning and flotation) and screening of foraminifera tests in the sediment.

8. **Anísio Teixeira Institute – Secretary of Education of the State of Bahia - IAT/SEC**

04/2010 – 05/2011

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Position: Technician for Course Logistics, Working hours (weekly): 40. Job Description: Logistics for professional improvement courses offered by the Secretary of Education of the State of Bahia to the State professors: assembly of course kits; registration of students; calculation of percentage attendance of students; preparation of certificates.

Areas of Expertise

1. Bee Microbiome
2. Soil Microbiome
3. Microbial Ecology
4. Bioinformatics (Metabarcoding and Metagenome studies)
5. Biological Control

Languages

Portuguese Native Language

English Understanding Fluent, Speaking Fluent, Writing Fluent, Reading Fluent

- 1 English Proficiency (TOEFL ITP) – Score: 573 (Oct/2018)
- 2 English Proficiency IELTS - Score 6,5 (Jan/2013)

Spanish Understanding Functional, Speaking Functional, Writing Basic, Reading Functional

Scientific and Academic production

Bibliographic Production

Papers Published in Scientific Journals

1. **CERQUEIRA, A.E.S.**; HAMMER, T.J.; MORAN, N. A.; SANTANA, W. C.; KASUYA, M. G. M.; SILVA, C. C., 2021. Extinction of anciently associated gut bacterial symbionts in a clade of stingless bees. In THE ISME JOURNAL, v.-, P.---.
*Home page: [*https://doi.org/10.1038/s41396-021-01000-1]

2. **CERQUEIRA, A.E.S.**; SILVA, T.H.; NUNES, A.C.S.; NUNES, D.D.; LOBATO, L.C.; VELOSO, T.G.R.; DE PAULA, S.O.; KASUYA, M.C.M.; SILVA, C.C.. 2018. Amazon basin pasture soils reveal susceptibility to phytopathogens and lower fungal community dissimilarity than forest In APPLIED SOIL ECOLOGY., v.131, 1-11
Keywords: Diversity, Biotic homogenization, Deforestation, ITS amplicon, Fungi, Tropical rainforest
*Home page: [*http://dx.doi.org/10.1016/j.apsoil.2018.07.004]

3. CARDOSO, E.B.; PRATES JÚNIOR, P.; SILVA, M.C.S.; **CERQUEIRA, A.E.S.**; JORDÃO, T.C.; MOREIRA, B.C.; PEREIRA, E.G.; KASUYA, M.C.M.. 2020. Composition and diversity of prokaryotes at an iron ore post-mining site revealed the natural resilience 10- years after mining exploitation In LAND DEGRADATION & DEVELOPMENT., v.-,ldr.3713-14
Keywords: actinobacteria, microbial composition, nitrogen-fixing, plant growth-promoting bacteria, Quadrilátero Ferrífero
Home page: [doi:10.1002/ldr.3713]

4. PRATES JUNIOR, P.; **CERQUEIRA, A. E. S**.; VELOSO, T.G. R.; CORREIA, H. L. N.; KASUYA, M. C. M. 2017.
Núcleo de Estudos em Microbiologia Agrícola (NEMA): integração e multiplicação de ações e conhecimentos In REVISTA ELO - DIÁLOGOS EM EXTENSÃO. , v.6, 61-65
Home page: [http://dx.doi.org/10.21284/elo.v6i3.263]

5. **CERQUEIRA, A. E. S**.; LISBOA, M. S. ; OLIVEIRA, C. I. F. ; OLIVEIRA, M. Z. A. ; OLIVEIRA, E. J. ; BARBOSA, C. J. . Prospecção de fungos associados a sementes de maracujá amarelo no Estado da Bahia. Cruz das Almas, BA: Embrapa Mandioca e Fruticultura, 2019 (Boletim de Pesquisa e Desenvolvimento).
Keywords: Fungo, Maracujá, Passion fruits
Home page: [https://www.embrapa.br/busca-de-publicacoes/-/publicacao/1116560/prospeccao-de-fungos-associados-a-sementes-de-maracuja-amarelo-no-estado-da-bahia]

Main Abstracts published in annals of events (complete list at http://lattes.cnpq.br/7635148171647668. Total: 30 publications)

1. **CERQUEIRA, A. E. S**.; LIMA, H. S.; KASUYA, M. C. M.; DE PAULA, S.O.; SANTANA, W. C.; SILVA, C. C.
Fungal diversity and composition of three species of stingless bees of melipona genus In: IV Simpósio Internacional de Microbiologia e Biotecnologia (SIMB) / II Congresso Brasileiro de Microbiologia Agropecuária, Agrícola e Ambiental (CBMAAA), 2018, Viçosa - Minas Gerais. SIMB 2018 - ANNALS., 2018.
Home page: [http://https://docs.wixstatic.com/ugd/c9bee9_058de3aca927425c94b20a89fa71d315.pdf]

2. **CERQUEIRA, A. E. S**.; SILVA, T. H.; VELOSO, T. G. R.; NUNES, A.C.S.; NUNES, D.D.; DE PAULA, S.O.; KASUYA, M. C. M.; SILVA, C. C.
Forest-to-pasture conversion alters fungal community composition and dissimilarity in the Amazon basin soil In: IX Congreso Latinoamericano de Micología (CLAMIX), 2017, Lima - Peru.

3. **CERQUEIRA, A. E. S**.; SILVA, T. H.; NUNES, A.C.S.; NUNES, D.D.; LOBATO, L. C. H.; DE PAULA, S.O.; KASUYA, M. C. M.; SILVA, C. C.
Forest to pasture conversion in the Amazon Basin increases mean alpha diversity of soil fungi. In: III International Symposium on Microbiology and Biotechnology, 2016, Viçosa - Minas Gerais.

4. **CERQUEIRA, A. E. S**.; SILVA, T. H.; COSTA, K.C.S; NUNES, A.C.S.; NUNES, D.D.; DE PAULA, S.O.; ZAMBOLIM, L.; KASUYA, M. C. M.; SILVA, C. C.
POTENTIAL OF SOIL FUNGI FROM THE RIVER BASIN OF MUTUMPARANÁ-RO FOR THE BIOCONTROL OF PHYTOPATHOGENIC FUNGI OF THE STRAWBERRY CROP In: 28º Congresso Brasileiro de Microbiologia, 2015, Florianópolis, SC.

5. LIMA, R. G.; NASCIMENTO, F. R.; BARRETO, M. M.; **CERQUEIRA, A. E. S**.; KIPERSTOK, A.
Sustainable Sanitation in UFBA University campus: a proposal for nutrients reuse and rational water use in the toilets In: International Joint Conferences: 16th European Roundtable on Sustainable Consumption and Production (ERSCP) & 7th Environmental Management for Sustainable Universities (EMSU), 2013, Istanbul.

Technical production – Blog Publication

1. **CERQUEIRA, A. E. S.**, The break-up of a long-term (microbial) relationship in stingless bees, 2021.
   Home page: https://naturemicrobiologycommunity.nature.com/posts/the-break-up-of-a-long-term-microbial-relationship-in-stingless-bees

Technical production – Teaching (Theoretical-Practical Courses)

1. III Summer Journey of Microbiology of UFV, 2019. Event organized by the Nucleus of Studies in Agricultural Microbiology (NEMA) and the Department of Microbiology – Federal University of Vicosa (UFV) – Brazil
   - **Molecular Biology and Bioinformatics Applied for The Study of Environmental Samples Microbiome (1 week course – 20 hours)**
2. **Microbiology for Elementary School**, 2019. **(Short-course – 2 hours).** Event organized by the Nucleus of Studies in Agricultural Microbiology (NEMA) and the Department of Microbiology – Federal University of Vicosa (UFV) – Brazil
3. **Microbiology in the Schools**, 2019. **(Short-course – 2hours).** Event organized by the Nucleus of Studies in Agricultural Microbiology (NEMA) and the Department of Microbiology – Federal University of Vicosa (UFV) – Brazil
4. Science in the Square, 2019. Event organized by the Federal University of Vicosa (UFV) – Brazil
   - **Microbes: Heroes or Villains? (Short course – 3 hours).**
5. Teaching for Graduate students at the two classes at the Lecture MBI 661, 2019 – Analysis of Microbial Diversity, Coordinated by Professor Cynthia Canêdo da Silva – Department of Microbiology - Federal University of Vicosa (UFV) – Brazil
   - **Bayesian Analysis – Applied to Fungal Phylogeny (2 hours class)**
   - **Analysis of Microbial Diversity – Habitat Specificity Analysis using R (1 hour class)**
   - **Functional Prediction from Amplicon Sequence Data using FunGuild (1 hour class)**
   - **Functional analysis of metagenomic data using MG-RAST (2 hours class)**
6. Cycle of Discussions in Bioinformatics II, 2018. Event organized by the Nucleus of Studies in Agricultural Microbiology (NEMA) – Federal University of Vicosa (UFV) – Brazil
   - **Introduction to the Next Generation Sequencing (Short-course – 2hours)**
   - **Functional analysis of metagenomic data using MG-RAST (Short-course – 2hours)**
7. II Summer Journey of Microbiology of UFV, 2018. Event organized by the Nucleus of Studies in Agricultural Microbiology (NEMA) and the Department of Microbiology – Federal University of Vicosa (UFV) – Brazil
   - **Applied tools for the study of Microbial Diversity (1 week course – 20 hours)**
8. Science in the Square, 2018. Event organized by the Federal University of Vicosa (UFV) – Brazil
   - **Microbes: Heroes or Villains? (Short course – 3 hours).**
9. Teaching for Graduate students at the two classes at the Lecture MBI 661, 2018 – Analysis of Microbial Diversity, Coordinated by Professor Cynthia Canêdo da Silva – Department of Microbiology - Federal University of Vicosa (UFV) – Brazil
   - **Sequencing Technologies and Its Methods for Analysis – Theory (2 hours class)**
   - **Phylogeny of Fungi: Sequence Assembly and Alignment (2 hours class)**
   - **Bayesian Analysis – Applied to Fungal Phylogeny (2 hours class)**
   - **Functional analysis of metagenomic data using MG-RAST (2 hours class)**
10. Teaching for Graduate students at the two classes at the Lecture MBI 661, 2017 – Analysis of Microbial Diversity, Coordinated by Professor Cynthia Canêdo da Silva – Department of Microbiology - Federal University of Vicosa (UFV) – Brazil
    - **Bayesian Analysis – Applied to Fungal Phylogeny (2 hours class)**
    - **Functional analysis of metagenomic data using MG-RAST (2 hours class)**
11. **Demonstration of Microoganisms in the Environment and the role of Mycorrhizas**, 2016. **(Short-course – 5hours).** Event organized by the Nucleus of Studies in Agricultural Microbiology (NEMA) and the Department of Microbiology – Federal University of Vicosa (UFV) – Brazil
12. Teaching for Graduate students at the two classes at the Lecture MBI 661, 2016 – Analysis of Microbial Diversity, Coordinated by Professor Cynthia Canêdo da Silva – Department of Microbiology - Federal University of Vicosa (UFV) – Brazil
    - **Bayesian Analysis – Applied to Fungal Phylogeny (2 hours class)**
    - **Data Analysis of High-Throughput Sequencing by QIIME (Quantitative Insights Into Microbial Ecology (2 hours class)**

Mentoring

1. 2015 - Mentoring in the Junior Scientific Initiation Program (BIC-Junior - FAPEMIG) of a high school student at the Universidade Federal de Viçosa in the project – "**Potential of fungi from the Mutumparaná River Basin soils for the biological control of phytopathogenic fungi of the strawberry crop."**

Participation in Events

- **Participation in events (congress): 3**
- **Participation in events (seminar): 1**
- **Participation in events (symposium): 3**
- **Participation in events (meeting): 1**
- **Participation in events (other): 17**
- **Event Production (other): 6**