

Personal Information



Born	25/09/1987
City and country	Lavras-MG, Brazil
Nationality	Brazilian
E-mail	Main: eciodiniz@gmail.com Secondary: eciodiniz@yahoo.com.br
CVs online	https://www.researchgate.net/profile/Ecio_Souza_Diniz https://orcid.org/0000-0002-3543-6571 http://lattes.cnpq.br/4486399846318757
Gender	Male

Summary of Biography

Biologist by the Centro Universitário de Lavras - Unilavras (Brazil), MS in Forest Engineering from the Universidade Federal de Lavras-UFLA (Brazil) in the research line of Forest Ecology, Ph.D. in Botany from the Universidade Federal de Viçosa – UFV (Brazil). Doctoral internship in Germany at the University of Münster and University Bayreuth, where he participated in projects concerning the use of stable spectrometry and isotopes to evaluate biological invasion by exotic plant species. The main research lines are Ecology and Evolution, management and conservation of biodiversity, with a focus on plants. Among the main professional experience are phytosociology and dynamics of neotropical forest communities with special emphasis on the Atlantic Forest, Population Ecology of plants in Cerrado (Brazilian Savanna), and Campo Rupestre (Field Rock Outcrops) species. The main current lines of interest and work, under increasing development, are functional and phylogenetic ecology, interactions between plants and insect-plant, landscape ecology, climatic niche forecasting, supervised learning models, and applied statistics.

Areas of larger experience or expertise

1. Botany
2. Biodiversity Conservation
3. Ecology and Evolution
4. Vegetation Ecology
5. Forest Management and Monitoring
6. Functional and Phylogenetic Ecology
7. Landscape Ecology and Land Use
8. Statistical Modelling
9. R language and data analysis
10. Remote Sensing and GIS

Languages

Portuguese	mother language
English	Reads and understands well, speaks and writes well
Spanish	Reads and understands well, speaks and writes reasonably
German	Reads and understands reasonably, speaks and writes reasonably
Czech	Reads and understands few, speaks and writes few

Programming Language

R (advanced) and Python (Intermediate)

Social Engagement

<https://www.betaanalitica.com.br>
<https://twitter.com/DinizEcio>

<https://www.linkedin.com/in/ecio-souza-diniz>

https://www.instagram.com/beta_analitica

<https://www.facebook.com/betaanalitica>

https://www.youtube.com/c/Beta_Analitica

Hobbies

Writing: literature and musical journalism; Drawing, image and video editing; Hiking and camping; Martial arts

Soft skills

Adaptability; Resilience; Empathy; Sociability; Initiative; Good mood; Focus; Team work; Independence; Creativity; Enthusiasm; Dedication

Education

- 2013-2017 PhD in Botany
Research Line: Ecology, Systematics and Evolution
Emphasis: Functional and Phylogenetic Ecology of Plant Communities
Universidade Federal de Viçosa-UFV, Brazil
Thesis title: Competition, environmental filtering and phylogenetic diversity in Atlantic Forests
Advisor: João Augusto Alves Meira-Neto
Co-advisors: Markus Gastauer and Jan Thiele
- Doctoral internship in Germany: 2015
University of Münster and University Bayreuth
Supervisors: Dr. Tillmann Konrad Buttschardt (Münster) and Christiane Werner Pinto (Bayreuth)
- 2011-2013 Master in Forest Engineering
Research Line: Forest Engineering
Emphasis: Forest Dynamics (Long-term Monitoring)
Universidade Federal de Lavras-UFLA, Brazil
Thesis title: Dynamics of Semideciduous Atlantic Forest
Advisor: Warley Augusto Caldas Carvalho
Co-advisor: Marco Aurélio Leite Fontes
- 2006-2009 Biology undergraduation
Centro Universitário de Lavras-UNILAVRAS, Brazil
Title: Population structure of *Lychnophora pinaster* Mart. in a Campo Rupestre (Field Rock outcrop) site in the South of Minas Gerais, Brazil
Advisor: Flávio José Soares Júnior
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Professional Experience

- 2023-Present CREAM - Centre for Ecological Research and Forestry Applications, Autonomous University of Barcelona, Spain
- Performed Function: Postdoctoral researcher at the Global Ecology Unit acting as data analyst for macroecological and ecosystem functioning research.
- 2022-Present Universidade Federal de Viçosa-UFV, Brazil, Laboratory SIGMA (GIS and Remote Sensing), Department of Forestry Engineering
- Performed Function: Collaborator Researcher acting as data analyst employing machine learning prediction for forest management.
- Lecturer of subjects:*
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- 1-Introduction to Python Language
2- Machine learning fundamentals
3-Interactive analysis and statistics with R
- 2018-Present Beta Analítica. [Link](#)
- Performed Function: director and coordinator of the execution of freelance activities, in partnership with qualified professionals, related to assistance, consultancy, courses, training and mentoring in a range of data processing and statistical analysis approaches.
- 2021-2022 Institute of Botany (Czech Academy of Sciences), Department of Vegetation Ecology, Czech Republic.
- Performed Function: Postdoctoral fellow and researcher as data analyst for supervised classification of legacy forest management and land use history and statistical prediction of the influence of environmental factors on forest diversity (taxonomic, functional and phylogenetic).
- 2018-2021 Universidade Federal de Viçosa-UFV, Brazil, Laboratory SIGMA (GIS and Remote Sensing), Department of Forestry Engineering
- Performed function: Postdoctoral researcher in the fields of “GIS”, “Forest Management”, “Landscape Ecology”, “Supervised learning prediction”, “Remote sensing image classification”, “Spectroscopy (e.g., foliar spectra)” and “phylogenetic ecology”.
- 2017 Universidade Federal de Viçosa-UFV, Department of Plant Biology.
- Performed function: researcher collaborator.
- Lecturer of subjects*: Functional Ecology in Plant Communities
- 2017-2019 Experimental Analytics Corporation (currently “[Analise Cursos](#)”) enterprise
- Performed Function: freelancer for consultancy and teaching in online courses in distinct types of data analysis (e.g., introduction to R programming; regression modelling in R; community phylogenetic analysis; Excel for academics and business).
- 2010-2011 Universidade Federal de Lavras – UFLA, Department of Phytopathology, Brazil
- Performed function: Research Support Fellow CNPq. Support in resistance induction experiments in cacao and coffee plants. Partial Dedication Regime.
- 2009 UFLA, Seed Analysis Laboratory, Agriculture Department, Brazil
- Performed function: Internship: Aid in the treatment and analysis of seeds of diverse plants of commercial importance.
- 2008 UFLA, Major Crops Sector, Agriculture Department, Brazil
- Performed function: Internship: Assistance in field experiments for genetic improvement, pollination and corn seed production.
- 2008 COPASA Company, Lavras-MG, Brazil
- Performed function: Internship: Development of selective collection and recycling activities for environmental awareness of pre-college children.
- 2007 Foundation for Environmental Defense, Lavras-MG, Brazil
- Performed function: Internship: development of environmental awareness activities for the community in the project "Building New Horizons".

Review for scientific journals

Weather and Climate Extremes
 Biological Conservation
 Urban Ecosystems
 Plant Diversity and Ecology
 Journal of Plant Ecology
 Oecologia Australis
 Tropical and Subtropical Agroecosystems
 Atena Publisher: <http://atenaeditora.com.br/>

Editorial board member

Membership in societies and organizations

ProBiodiversa – non-profit organization for biodiversity conservation and sustainable development.
 SER Europe – Society for Ecological Restoration

Projects

2023-present STOIKOS: Elemental ecology: towards an element-based functional ecology

Description: The project aims to investigate whether the elemental composition of organisms relates to ecosystem functioning, and whether ecosystem elemental diversity predicts ecosystem functioning better than traditional metrics of diversity.

Situation: In progress. Type: Research

Members: Marcos Fernández Martínez (PI, coordinator); Écio Souza Diniz (Member); Roger Grau Andrés (Member; co-coordinator); Xin Song (Member); Eladio Rodríguez Penedo (Member); Filipe Manuel Andrade de Matos (Member).

Institution: CREAM, Autonomous University Barcelona, Spain

2022-present Identification and quantification of post-harvest forest wood residue

Description: This project aims to develop a methodology to identify and quantify post-harvest woody forest residues through the use of drone images, as well as compare the loss in different extraction equipment adopted for logging. Specifically, this project aims through the high resolution images obtained by drone: a) to quantify the woody forest residues from the classified image using object-oriented classification with Python; b) compare the economic loss in the different extraction equipment adopted.

Situation: In progress. Type: Research

Members: Reginaldo Arthur Gloria Marcelino (Executor), Alexandre Simões Lorenzon (Coordinator), Écio Souza Diniz (Co-executor and co-advisor); Ernani Lopes Possato (Co-advisor), Gustavo Eduardo Marcatti (Co-advisor), Cibele Hummel do Amaral (Collaborator), Nathália Lima (Collaborator), Laercio A. G. Jacovine (Co-advisor)

Institution: Universidade Federal de Viçosa - UFV, Brazil

2021-2022 Center for Landscape and Biodiversity (DivLand) - The long-term dynamics of biotic communities and related environmental factors.

Description: The main aim of the project is the development of a research center generating outputs helpful for both strategic planning in landscape protection, nature and biodiversity conservation as well as for solving current problems of recent landscape and ecosystem functioning. The main subjects of interest of the research center are landscape, specific terrestrial ecosystems (forest & agroecosystems) and biodiversity including biological invasions. The research center aims to formulate new systems of landscape monitoring on the national level of Czechia and to develop a coherent evaluation system of phenomena and processes defining the current state of landscape, ecosystems and biodiversity. Common sharing of extensive information and datasets, their synthesis and interpretation within a broad multi-disciplinary team are the crucial tools to achieve these goals.

Situation: concluded. Type: Research

Members: Écio Souza Diniz (Executor); Radim Hedl (coordinator), Peter Szabo (coordinator)

Institution: Institute of Botany (Czech Academy of Sciences), Department of Vegetation Ecology, Czech Republic

2020-2021 Connectivity and status of native forest fragments in areas of CENIBRA S.A. and surroundings

Description: Understanding the spatial characteristics of natural forest remnants is essential to assess the conservation status of their flora and fauna, as well as to support the proper management of the landscape. The ecology of landscapes is marked by the existence of two main approaches: the geographical one, which favors the study of the influence of man on the landscape and the management of the territory; and the ecological one, which emphasizes the importance of the spatial context on ecological processes, and the importance of these relationships in terms of biological conservation. The main objective of this project is to develop a methodology for mapping native forest fragments in areas close to the Rio Doce State Park and close to Eucalyptus' plantations within a highly fragmented region in the Minas Gerais State (Southeast Brazil) belonging to the Rio Doce River Basin. With such mapping this project aimed to analyze the landscape ecology, with a focus on connectivity between fragments in order to provide information and insights for decision makers assisting them to plan projects aiming to increase ecological corridors in this study region.

Situation: Concluded; Type: Research.

Members: Écio Souza Diniz (Executor); Cibele Hummel do Amaral (Coordinator).

Institution: Universidade Federal de Viçosa - UFV, Brazil

2019 Zoning of the probability of frost risk

Description: Designed for the production of cellulose, charcoal, wood panels, chemicals and cosmetics, trees are sources of hundreds of products and by-products. In Brazil, one of the world's largest producers of wood, the area planted with eucalyptus, pine, acacia, araucaria, teak, among other trees, is estimated at 7.8 million hectares. Despite its economic importance and its full growth potential, there are still many challenges for Brazilian forestry. The productivity of forest plantations depends on several factors. Among them, genotype, management and the environment are the main ones. In Brazil, one of the environmental phenomena that most causes economic damage is frost, especially in its Center-South region, which directly affects commercial forest production. Companies with plantations in risk regions have defined priority areas where the planting of eucalyptus clones reaches a greater chance of not being affected by severe frost effects. To define such priority planting areas, it is essential to combine tools and mapping techniques such as GIS (Georeferenced Information Systems) and learning algorithms with high predictive power. Thus, the production of mappings based on predictions of machine learning algorithms has been shown to have great potential to solve this type of problem and was the focus of this project.

Situation: concluded. Type: Research

Members: Écio Souza Diniz (Executor); Cibele Hummel do Amaral (Member); Alexandre Simões Lorenzon (Coordinator).

Institution: Universidade Federal de Viçosa - UFV, Brazil

2018 Spectral diversity and phylogenetic structure in natural forest gaps in Zona da Mata Mineira

Description: The formation of gaps is an important process in forest communities assembly and dynamics, as it acts in an ambivalent way, favoring the recruitment of fast-growing species, which are later replaced by recruits of species with better competitive abilities, dominant in density and size. The increase in knowledge about the main drivers determining the assembly of forest communities from the microscale (neighborhood) to the large (macro) spatial scale is only possible through the combination of different methods that address these different scales. In this context, ecological phylogeny allows us to establish links between ecological processes observed in the present time to evolutionary events on large temporal scales, and to analyze the phylogenetic relationship between species taking into account the influence of abiotic filters (e.g. environmental filters) and biotic filters. (eg interactions such as competition). On the other hand, the use of macroscale remote sensing allows better understanding of the local environmental conditions and species physiological features in forest gaps, for instance, through measurements photosynthetically active radiation (PAR) and biochemical traits associated to foliar spectra. Therefore, the analysis of leaf reflectance spectra (between 400 and 2,500 nm) as predictors of various leaf biochemical characteristics can also provide important information on species adaptation in forest gaps. Through the phylogenetic signal test as an indicator of conservatism of spectral signatures, we can obtain information about which wavelengths are more important in different regions of the spectrum for the definition of phylogenetic patterns (clustering or superdispersion) in forest gaps. Therefore, the main of this study was to establish relationships between vegetation diversity and structure (both expressed at taxonomic and phylogenetic levels) and leaf reflectance of regeneration woody species for the remote monitoring of natural regeneration of Atlantic Forest gaps in the State of Minas Gerais,

Southeast Brazil.

Situation: concluded. Type: Research

Members: Écio Souza Diniz (Executor); João A.A. Meira-Neto; Jan Thiele; Cibele Hummel do Amaral; Jose Marinaldo Gleriani

Institution: Universidade Federal de Viçosa - UFV, Brazil

2015-2016 INSPECTED-NET: INvasive SPecies Evaluation, ConTrol & Education

Description: Exotic plant species are species that are not native and have been introduced deliberately or by accident. The intentions to introduce an exotic species to a native ecosystem on purpose are manifold and include wood production and soil amelioration. Some exotic species establish stable populations and suddenly turn invasive: they spread out further than intended without control and can cause damage to native habitats in the means of biodiversity, ecosystem functioning and human health. Some of these invasive species are able to facilitate their invasion by altering the ecosystem properties to their advantage and turning them less favorable for native species. They are called invasive ecosystem engineers. With climate change, soil degradation and the need of alternative energy sources being the main challenges for mankind at the beginning of the 21st century, there will be need to experiment more with exotic species that have these engineering properties to battle soil degradation, for CO₂ sequestration in fast growing plantations and for wood production. In this context, the use of genetically modified organisms will be forced as their properties (high reproduction, high biomass, resistant against pests) can be manipulated. In other words, the properties of a species that are, on the one hand, highly desirable for soil amelioration and (agro) forestry, are on the other hand characteristics of an invader that harms biodiversity and ecosystem functioning. Thus, a better understanding of biological invasion processes and a powerful risk assessment is needed to allow to profit from exotic species and to prevent further damage to valuable ecosystems at the same time. Therefore, the invasive ecosystem engineer *Acacia longifolia* was an exemplary species in this study to understand profoundly invasion processes, to develop a risk assessment for exotic species, to manage infested native ecosystems and to establish an international expert group.

Situation: concluded. Type: Research

Members: Écio Souza Diniz (Member); João A.A. Meira-Neto; Andreza Viana Neri; Tillmann Butschardt (Coordinator); Jan Thiele; Cristina Máguas; Christiane Werner; Jan Lehmann; André Große-Stoltenberg.

Institution: University of Münster (Germany) and University Bayreuth (Germany)

2010-2011 Association of resistance inducers for the management of coffee rust and biochemical and molecular characterization of the induced defense response

Description: Project that aimed to seek alternative ways to control rust, based on resistance induction, that are less aggressive to man and the environment, and with possible applications in organic coffee growing. In this context, extracts from agro-industrial residues and waste fruit of the coffee crop will be used with resistance-inducing ability proven in other pathosystems.

Situation: concluded. Type: Research

Members: Écio Souza Diniz (Member and executor); Luciano Vilela Paiva; Patrícia Gomes Cardoso; Ricardo Borges Pereira; Mário Lúcio Vilela de Resende (Coordinator); Saria Maria Chalfoun; Carlos José Pimenta; Martins Ribeiro Júnior; Claylon Grillo Pinto

Institution: Universidade Federal de Lavras – UFLA, Brazil

2010 Resistance induction in cacao against witches' broom (*Crinipellis perniciososa*): selection of new inducers in greenhouse and biochemical and molecular characterization of the defense response

Description: Project that aimed at evaluating alternative methods of controlling witches' broom, the main disease that affects cacao (*Theobroma cacao* L.), based on the induction of broad-spectrum resistance, compatible with other strategies already used in the integrated management of this disease.

Situation: concluded. Type: Research

Members: Écio Souza Diniz (Member and executor); Mário Lúcio Vilela de Resende (Coordinator); Luciano Vilela Paiva; Magnólia de Araújo Campos; Livia de Matos Pereira; Fabrício Rabelo Camilo; Ana Cristina Monteiro; Rodrigo Estevam de Oliveira; Moises Antônio de Padua

Institution: Universidade Federal de Lavras – UFLA, Brazil

Supervision

Co-advisor

2021-2023	Gabriella Melo Oliveira (Master student). Universidade Federal de Lavras-UFLA, Brazil. <u>Project</u> : Phylogenetic relationships in a network of interactions between plants and floral visitors.
2021	Arlan Jack Coronel Toro (Master student). Universidade Federal de Viçosa-UFV, Brazil. <u>Project</u> : Management effectiveness in National Parks from Peru.

Participation in examination committees of scientific work

Poster presentation evaluator

2018 Brazilian Ecology Conference, Universidade Federal de Viçosa-UFV, Brazil.

Oral presentation evaluator

2018 Brazilian Ecology Conference, Universidade Federal de Viçosa-UFV, Brazil.

Abstract evaluator

2018 Brazilian Ecology Conference, Universidade Federal de Viçosa-UFV, Brazil.

Participation in examination committees of conclusion work

Evaluator of course conclusion work (Bachelor and Undergraduate)

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| 2021 | Roger Milla Santos. Title: Temporal analysis of land use and land cover in riparian APPS the Rio Corrente, Bahia, Brazil. Completion of course work (Undergraduation in Forest Engineering) – Universidade Federal de Viçosa, Brazil. |
| 2013 | Rodolfo de Oliveira Costa. Title: Floral biology, phenology and spatial distribution of <i>Chresta scapigera</i> (Asteraceae) in an area of the Unilavras-Boqueirão Biological Reserve, Ingaí, MG. Completion of course work (Undergraduation in Biology) – Unilavras, Brazil. |

Evaluator of masters and PhD (Thesis or qualification)

- | | |
|------|---|
| 2023 | Darlisson Mesquita Batista. The phylogenetic structure of Amazonian Zingiberales communities responds to edaphic and climatic gradients. Master`s thesis defense (Masters in Biodiversity) - Universidade Federal do Oeste do Pará |
| 2023 | Miguel Ângelo Teixeira Silva. Expanding knowledge of Brazilian High-altitude Grasslands (Campos de altitude): current knowledge, functional and phylogenetic diversities of isolated and threatened mountain- top vegetation. Qualifying exam (Masters in Botany) – Universidade Federal de Viçosa, Brazil. |
| 2023 | Luciana Aparecida Botacim. Phylogenetic Structure of Habitat in Topographic Gradient in the Atlantic Forest. Master`s thesis defense (Masters in Genetics and Breeding) – Universidade Federal do Espírito Santo |
| 2022 | Luciana Aparecida Botacim. Phylogenetic Structure of Habitat in Topographic Gradient in the Atlantic Forest. Qualifying exam (Masters in Genetics and Breeding) – Universidade Federal do Espírito Santo |
| 2022 | Darlisson Mesquita Batista. Phylogenetic structure of Amazonian Zingiberales communities. Qualifying exam (Masters in Biodiversity) - Universidade Federal do Oeste do Pará. |
| 2021 | Arlan Jack Coronel Toro. Title: Management effectiveness in national parks from Peru. Master`s thesis defense (Masters in Forest Engineering) – Universidade Federal de Viçosa, |

Brazil.

- 2021 Brener de Almeida Oliveira. Title: Time series investigation for correlations between rainfall and phenology in Cerrado (Brazilian Savanna). Master`s thesis defense (Masters in Forest Engineering) – Universidade Federal de Viçosa, Brazil.
- 2021 Anderson Silva Pinto. Title: Structure and Phylogenetic Diversity of Forests in Elevated Areas in The Semiarid Region of Brazil. 2021. Qualifying exam (Doctorate in Ethnobiology and Nature Conservation) - Federal Rural University of Pernambuco.

Presentations and Lectures

Oral Presentation in events

- 2016 The influence of dynamics on the phylogenetic structure of Brazilian Atlantic Forests. In: ISBI - International Symposium on Biological Invasion & II Botany Meeting, 2016, Viçosa-MG, Brazil. Abstract, 2016.

Lecturer in Seminars

- 2019 Applications of Statistics in the Context of Research Methodology. Department of Architecture, Universidade Federal de Viçosa-MG, Brazil.
- 2019 European funds for research funding. 2019. Department of Forestry Engineering, Universidade Federal de Viçosa-MG, Brazil.

Event Organization

- 2018 II SSACA–Software Week Applied to Agrarian Sciences: Universidade Federal de Viçosa, Viçosa, MG, Brazil.
- 2017 XIII Brazilian Ecology Conference – Universidade Federal de Viçosa, Viçosa, MG, Brazil.
- 2016 ISBI–International Symposium on Biological Invasion and II Botany Meeting – Universidade Federal de Viçosa, Viçosa, MG , Brazil.
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Scientific Production: publicationsParticipation in authorship of complete articles published in journals

DINIZ, ÉCIO SOUZA; MOTA, PEDRO HENRIQUE SANTOS; REIS, JOSUÉ PAOLI; COSTA, WALTER SILVA; PAIVA, EDSON VALGAS; LANA, JACINTO MOREIRA; LAGE, GUSTAVO BRETAS; AMARAL, CIBELE HUMMEL. Connectivity value of Atlantic forest fragments: pathways towards enhancing biodiversity conservation. *Brazilian Journal of Botany*. Accepted on 23th November 2023.

SZABÓ, PÉTER.; **DINIZ, ÉCIO SOUZA**; HOUŠKA, JAKUB. Traditional agroforestry on forested land: a comprehensive analysis of its distribution pattern in the 19th century. *Agroforestry Systems*. <https://doi.org/10.1007/s10457-023-00894-4>

PINTO, ANDERSON SILVA.; **DINIZ, ÉCIO SOUZA**; LOPES, SÉRGIO DE FARIA. Phylogenetic diversity in moist and dry upland forests in the Semi-arid Region of Brazil. *Brazilian Journal of Biology*. <https://doi.org/10.1590/1519-6984.274577>

DINIZ, ÉCIO SOUZA; AMARAL, CIBELE HUMMEL; TELLES, LUCAS ARTHUR DE ALMEIDA; MEIRA-NETO, JOÃO AUGUSTO ALVES. Improved retrieval of phylogenetic signals from normalized foliar reflectance spectra in Neotropical forest gaps. *Community Ecology*, 24, 283-291, 2023. <https://doi.org/10.1007/s42974-023-00146-6>

OLIVEIRA JUNIOR, NEIL DAMAS; **DINIZ, ÉCIO SOUZA**; AVILA JR, RUBEM SAMUEL. Composition and phylogenetic structure of Pampean grasslands under distinct land use and presence of alien species. *Community Ecology*, 24, 73-86, 2023. <https://doi.org/10.1007/s42974-023-00136-8>

VILLA, PEDRO MANUEL; MEIRA-NETO, JOÃO AUGUSTO ALVES; **DINIZ, ÉCIO SOUZA**; ALI, ARSHAD; NERI, ANDREZA VIANA; MARTINS, SEBASTIÃO VENÂNCIO; CAMPOS, PRIMULA VIANA; PINTO-JUNIOR, HERVAL VIEIRA; COSTA, JAMERSON SOUZA; COELHO, ALEX JOSÉLIO PIRES; BAO, FRANCIELLI; LIMA, GRAZIELA DE ARAÚJO; RAPINI, ALESSANDRO. Soil factors rather than stand age drive tree phylogenetic diversity along Amazon Forest succession. *Ecological Engineering*, 189: 106915, 2023. <https://doi.org/10.1016/j.ecoleng.2023.106915>

HENRIQUES, NATHALIA RIBEIRO; LOURENO, GISELLE MARTINS; **DINIZ, ÉCIO SOUZA**; CORNELISSEN, TATIANA. Is elevation a strong environmental filter? Combining taxonomy, functional traits and phylogeny of butterflies in a tropical mountain. *Ecological Entomology*, 1–13, 2022. <https://doi.org/10.1111/een.13145>

DINIZ, ÉCIO SOUZA; AMARAL, CIBELE HUMMEL; SARDINHA, SILAS TADIN; THIELE, JAN; MEIRA-NETO, JOÃO AUGUSTO ALVES. Phylogenetic signatures in reflected foliar spectra of regenerating plants in Neotropical forest gaps. *Remote Sensing of Environment*, 253: 112172, 2021. <https://doi.org/10.1016/j.rse.2020.112172>

DINIZ, ÉCIO SOUZA; GASTAUER, MARKUS; Thiele, Jan; MEIRA-NETO, JOÃO AUGUSTO ALVES. Phylogenetic dynamics of Tropical Atlantic Forests. *Evolutionary Ecology*, 35: 65–81, 2021. <http://dx.doi.org/10.1007/s10682-020-10094-6>

DINIZ, ÉCIO SOUZA; LORENZON, ALEXANDRE SIMÕES; CASTRO, NERO LEMOS MARTINS; MARCATTI, GUSTAVO EDUARDO; SANTOS, OSMARINO PIRES; DEUS JÚNIOR, JOSÉ CARLOS;

CAVALCANTE, ROSANE BARBOSA LOPES; FERNANDES-FILHO, ELPÍDIO INÁCIO, AMARAL, CIBELE HUMMEL. Forecasting frost risk in forest plantations by the combination of spatial data and machine learning algorithms. *Agricultural and Forest Meteorology*, 306:108450, 2021. <http://dx.doi.org/10.1016/j.agrformet.2021.108450>

VILLA, PEDRO MANUEL; MARTINS, SEBASTIÃO VENÂNCIO; **DINIZ, ÉCIO SOUZA**; NOLASCO DE OLIVEIRA NETO, SILVIO; NERI, ANDREZA VIANA; PINTO-JUNIOR, HERVAL; NUNES, JAQUELINA ALVES; BUENO, MARCELO LEANDRO; ALI, ARSHAD. Taxonomic and functional beta diversity of woody communities along Amazon Forest succession: The relative importance of stand age, soil properties and spatial factor. *Forest Ecology and Management*, 482, p. 118885, 2021. <http://dx.doi.org/10.1016/j.foreco.2020.118885>

DINIZ, ÉCIO SOUZA; COSTA, RODOLFO OLIVEIRA; MÜLLER, LARISSA AREAL CARVALHO; Thiele, Jan; SILVA, MARCONI SOUZA. Phenology, reproductive biology and spatial distribution of *Chresta scapigera* (Less.) Gardner (Asteraceae). *Oecologia Australis*, 25: 710-721, 2021. <https://doi.org/10.4257/oeco.2021.2503.07>

COELHO, ALEX JOSÉLIO PIRES; MAGNAGO, LUIZ FERNANDO SILVA; MATOS, FÁBIO ANTÔNIO RIBEIRO; MOTA, NAYARA MESQUITA; **DINIZ, ÉCIO SOUZA**; MEIRA NETO, JOÃO AUGUSTO ALVES. Effects of anthropogenic disturbances on biodiversity and biomass stock of Cerrado, the Brazilian savanna. *Biodiversity and Conservation*, 29(9-10), 2020. <https://doi.org/10.1007/s10531-020-02013-6>

MENDES, CN; **DINIZ, ÉCIO SOUZA**; TERRA, MCNS; JEANNOT, KK; FONTES, MAL. Light conditions imposed by canopy: allometric strategies of an understorey palm (*Geonoma schottiana* Mart) in Atlantic Forest. *Journal of Tropical Forest Science*, v.31, p.332 - 342, 2019. <https://doi.org/10.26525/jtfs2019.31.3.332>

DINIZ, ÉCIO SOUZA; CARVALHO, W.A.C; SANTOS, R.M ; GASTAUER, M; GARCIA, P.O; FONTES, M.A.L; COELHO, P.A; MOREIRA, A.M; MENINO, G.C; OLIVEIRA-FILHO, A.T. Long-term monitoring of diversity and structure of two stands of an Atlantic Tropical Forest. *Biodiversity Data Journal*, v. 5, p. e13564, 2017. <https://doi.org/10.3897/BDJ.5.e13564>

DINIZ, ÉCIO SOUZA; BORGES, L.A.C; PEREIRA, J.L. The current situation of solid waste management in the microregion of Lavras, State of Minas Gerais, Brazil. *Revista Científica ANAP Brasil*, v. 10, p. 10-19, 2017., v.217, p.710 - 717, 2018. <http://dx.doi.org/10.17271/19843240101820171528>

GASTAUER, M; ALMADO, R; MIAZAKI, A; **DINIZ, ÉCIO SOUZA**; MOREIRA, L.B; MEIRA-NETO, J.A.A. Species composition, community and population dynamics of two gallery forests from the Brazilian Cerrado domain. *Biodiversity Data Journal*, v. 4, p. e8503, 2016. <https://doi.org/10.3897/BDJ.4.e8503>

COELHO, A. J. P; **DINIZ, E.S**; AQUINO, L. R; MEIRA-NETO, JOÃO A.A. Effects of area size on woody biomass stock and basal area on fragments of Cerrado *stricto sensu*. In: ISBI - International Symposium on Biological Invasion & II Jornada Botânica, 2016, Viçosa-MG, Brazil. Resumo, 2016.

DINIZ, ÉCIO SOUZA; PAVANELLI, A.P; SOARES JUNIOR, F. J. Analysis of the population structure of *Lychnophora pinaster* Mart. of a Southern *Campo Rupestre* (Field Rock Outcrop) of Minas Gerais, Brazil, by using multivariate statistics. *Ecología Aplicada*, v. 9, p. 141-142, 2010. <http://dx.doi.org/10.21704/rea.v9i1-2.404>

DINIZ, ÉCIO SOUZA; PAVANELLI, A.P; SOARES JUNIOR, F. J. Population structure of *Lychnophora pinaster* Mart. on a stretch of Campo Rupestre in the south of Minas Gerais, Brazil. *Pesquisas. Botânica*, v. 61, p. 191-204, 2010.

Participation in authorship of complete articles under consideration in journals

DINIZ, ÉCIO SOUZA; DIAS, FILIPE; BORDAS DE ÁGUA, LUIS; RODRÍGUEZ-GONZÁLEZ, PATRICIA MARÍA. Anthropogenic disturbance and alien plant invasion drive the phylogenetic impoverishment in riparian vegetation. Submitted to *Biodiversity and Conservation*: 21 October 2022.

Participation in authorship of published books

Book

DINIZ, ÉCIO SOUZA; Thiele, Jan. Modelos de regressão em R (*English: Regression models in R*). Joinville - SC: Clube dos Autores, 2021. 154p. ISBN: 978-65-001-9611-5. [Link about](#).

DINIZ, ÉCIO SOUZA; Thiele, Jan. Aplicações de modelos de regressão em R para análise de vegetação (*English: Applications of regression models in R for vegetation analysis*). 2. ed. Saarbrücken: Novas Edições Acadêmicas (NEA), 2021. 160p. ISBN: 978-620-3-46715-4. [Link about](#).

DINIZ, ÉCIO SOUZA; THIELE, J. Modelagem de Regressão no R: aplicações em análises de vegetação (*English: Regression Modeling in R: applications in vegetation analysis*). 1. ed. Saarbrücken: Novas Edições Acadêmicas, 2018. 84p. ISBN: 978-620-2-04882-8. [Link about](#).

Book chapter

DINIZ, ÉCIO SOUZA; Thiele, Jan. BIOVEG - A protocol to learn and teach statistics in R using vegetation data. In: Aplicações da Linguagem R em Análises de Vegetação.1 ed.Ponta Grossa-PR: Atena Editora, 2020, p. 1-10. Doi: 10.22533/at.ed.3552009031. [Link about](#).

VILLA, PEDRO MANUEL; MARTINS, SEBASTIÃO VENÂNCIO; **DINIZ, ÉCIO SOUZA**; PÉREZ-SÁNCHEZ, A. J.; HERINGER, GUSTAVO; RODRIGUES, ALICE CRISTINA; SCHMITZ, DANIELA; LOUSADA, JÚNIA MARIA; PINTO, HERVAL JUNIOR; NERI, ANDREZA VIANA. Rarefaction and extrapolation of species diversity during Neotropical forest succession: an R routine using Inext package. In: Aplicações da Linguagem R em Análises de Vegetação.1 ed.Ponta Grossa-PR: Atena Editora, 2020, p. 11-19. Doi: 10.22533/at.ed.3552009032. [Link about](#).

Book Editing and Organization

DINIZ, ÉCIO SOUZA; VILLA, P. M. Aplicações da Linguagem R em Análises de Vegetação (*English: Applications of the R Language in Vegetation Analysis*). Ponta Grossa-PR: Atena Editora, 2020. ISBN: 978-65-86002-35-5. <https://dx.doi.org/10.22533/at.ed.355200903>

Additional Information

Teaching in courses and subjects

2019-Present	Online course “Regression modeling in R: basic and advanced”. Beta Analitica. Duration: 8 hours.
2019	Introduction to regression modeling in R. Mar. 2019 Course by Experimental Analytics Corporation. Duration: 8 hours.
2018	Introduction to community phylogenetic analysis. Out 2018. Course by Experimental Analytics Corporation. Duration: 4 hours.
2018	Regression modeling in R. Set. 2018. Course by Experimental Analytics Corporation. Duration: 8 hours.
2018	Community phylogenetic analysis: level 1. Ago. 2018. Course by Experimental Analytics Corporation. Duration: 6 hours.
2018	R: regression modeling. Ago. 2018. Course in SSACA– Software Week Applied to Agrarian Sciences, at Universidade Federal de Viçosa, Brazil. Duration: 16 hours.
2018	Regression modeling in software R. Jul. 2018. Course by Experimental Analytics Corporation. Duration: 6 hours.
2018	Community phylogenetic analysis: level 1. Jun. 2018. Course by Experimental Analytics Corporation. Duration: 6 hours.
2018	Regression modeling in software R. Abr. 2018. Course by Experimental Analytics Corporation. Duration: 10 hours.
2018	Excel: practical applications for everyday academic and business. Abr. 2018. Course by Experimental Analytics Corporation. Duration: 6 hours.
2018	Introduction to software R. 2018. Course by Experimental Analytics Corporation. Duration: 9 hours.
2018	Regression modeling in software R. Mar. 2018. Course by Experimental Analytics Corporation. Duration: 10 hours.
2018	Excel: practical applications for everyday academic and business. Fev. 2018. Course by Experimental Analytics Corporation. Duration: 6 hours.
2017	Regression modeling in software R. Dez. 2017. Course by Experimental Analytics Corporation. Duration: 10 hours.
2017	Subject: “Functional Ecology of Plant Communities”. Part of teaching plan of the Special Topics in Botany I (BVE 790), Graduate Program in Botany, Department of Plant Biology, Univerisdade Federal de Viçosa, Brazil.

- 2017 Phylogenetic analysis of plant communities. Out. 2017. Course in XIII Congresso de Ecologia do Brasil (Brazilian Ecology Conference) – Universidade Federal de Viçosa-UFV, Brazil. Duration: 4 hours.

Technical Report

- 2016 Shrub and tree community dynamics at ArcelorMittal 2017 Ecological Relevance Units, Brazil. (Co-author of Technical Report).
- 2014 Shrub and tree community dynamics at ArcelorMittal 2017 Ecological Relevance Units: Sombra da Tarde (BA)-Rio Doce (MG), Brazil. Nov. 2014. (Co-author of Technical Report).

Complementary Education and Training

- 2023 Fundamentals of Artificial Intelligence. Data Science Academy (Online course. Duration: 12 hours)
- 2023 Python Language Fundamentals for Data Analysis and Data Science. Data Science Academy (Online course. Duration: 72 hours)
- 2023 Writing in the sciences. Stanford University – Coursera. (Online course: Duration: 30 hours).
- 2021 Introduction to thermal infrared remote sensing using Copernicus Sentinels. SBSR Interim - Brazilian Symposium on Remote Sensing. SBSR Interim. (Online course. Duration: 6 hours).
- 2021 Introduction to rGEDI: An R Package for NASA's Global Ecosystem Dynamics Investigation (GEDI) Data Visualization and Processing (GEDI) Lidar. SBSR Interim. (Online course. Duration: 6 hours).
- 2021 Earth Observation Data Cubes and Time Series Analysis. SBSR Interim. (Online course. Duration: 6 hours).
- 2021 Introduction to Google Earth Engine (GEE). SBSR Interim. (Online course. Duration: 6 hours).
- 2021 Introduction to SAR Data Processing using SNAP. SBSR Interim. (Online course. Duration: 6 hours).
- 2021 Geospatial Analysis of Agricultural Dynamics in the Cerrado. SBSR Interim. (Webinar. Duration: 2.5 hours).
- 2021 Deep Learning Applications with Remote Sensing Data. SBSR Interim. (Webinar. Duration: 2.5 hours).
- 2021 CONE 2021 - Statistics Congress. (Webinars. Duration: 6 hours).
- 2021 Learn German Language – Intermediate. Udemy. (Online course. Duration: 7 hours).
- 2021 Perfect Your German: Tips and Tricks to avoid common mistakes. Udemy. (Online course. Duration: 2 hours).
- 2020 German made simple: A complete course for serious learners. Udemy. (Online course. Duration: 5 hours).
- 2019 Techstars Startup Weekend Viçosa, Brazil. (Training and Workshop: 54 hours)

- 2019 Neural Networks in R. Universidade Federal de Viçosa-UFV, Brazil. (Course. Duration: 8 hours).
- 2019 LIDAR data processing in R. Universidade Federal de Viçosa-UFV, Brazil. (Course. Duration: 10 hours).
- 2019 Introduction to Python (Course). Udemy. (Online course. Duration: 2 hours).
- 2019 Introduction to the geographic information system. Universidade Federal de Viçosa-UFV, Brazil. (Subject. Duration: 60 hours).
- 2018 Classification of Images in R Environment (Course), Universidade Federal de Viçosa-UFV, Brazil. (Duration: 20 hours).
- 2018 Online German course Andreia Bohn. (Duration: 180 hours).
- 2018 Neuroforest. Universidade Federal de Viçosa-UFV, Brazil. (Course. Duration: 4 hours)
- 2018 Workshop on map production and geoprocessing -ClickGEO. (Online Workshop duration: 5 hours).
- 2018 CARREIRAS UFV - How to Use LinkedIn to Start Your Career, Universidade Federal de Viçosa-UFV, Brazil. (Course. Duration: 4 hours).
- 2018 CARREIRAS - Future planning. (Seminar. Duration: 4 hours), Universidade Federal de Viçosa-UFV, Brazil. (Course. Duration: 4 hours).
- 2018 INOVAR Workshop - Social Media: Do you know how to use them? Universidade Federal de Viçosa-UFV, Brazil. (Duration: 3 hours).
- 2017 Software Scene: Faro Focus 3D - Faro Authorized Training. (Training hours: 24)
- 2014 TOEFL Preparation. Universidade Federal de Viçosa-UFV, Brazil. (Course. Duration: 64 hours)
- 2013 Introduction to Using Brahms. Universidade Federal de Viçosa-UFV, Brazil. (Course. Duration: 8 hours).

Participation in Conferences, Symposia and other Events

- 2022 Congresses of the European Society for Evolutionary Biology. Prague, Czech Republic. (Conference).
- 2021 SBSR Interim - Brazilian Symposium on Remote Sensing (Symposium)
- 2021 CONE 2021 - Statistics Congress. (Conference).
- 2021 IV Forum Economic and Environmental Impacts of Invasive Species: Innovations Driven by Biological Invasions. (Forum: Seminars and Round Table).
- 2019 Techstars Startup Weekend Viçosa, Brazil. (Training and workshop).
- 2019 CARREIRAS UFV e INOVAR: Entrepreneurship Week, Universidade Federal de Viçosa-UFV, Brazil. (Event with workshops and courses).
- 2019 III SSACA –Software Week Applied to Agrarian Sciences. Universidade Federal de Viçosa-UFV, Brazil. (Seminar and courses).

- 2018 SIA: Symposium on Academic Integration -UFV, Viçosa, Brazil.
- 2017 Brazilian Ecology Conference, Universidade Federal de Viçosa-UFV, Brazil. (Conference).
- 2016 ISBI: International Symposium on Biological Invasion and Botany Day, Universidade Federal de Viçosa-UFV, Brazil. (Symposium).
- 2014 II International Symposium of Ecology and Evolution, Universidade Federal de Viçosa-UFV, Brazil. (Symposium).
- 2012 IX National Conference of the Environment of Poços de Caldas, Brazil. (Conference).
- 2012 I International Symposium on Applied Botany / I National Symposium on Fruit Trees In the North and Northeast, Universidade Federal de Lavras, Brazil. (Conference).
- 2010 X Plant Disease Control Symposium and V Brazilian Meeting on Plant Resistance Induction. Universidade Federal de Lavras, Brazil. (Symposium).
- 2009 IX Brazilian Ecology Conference. São Lourenço, Brazil. (Conference)
- 2008 XVII Conference of the São Paulo Botanical Society. São Paulo, Brazil. (Conference)
- 2008 VIII SEC BIO-Cultural Week of Biology at Unilavras, Lavras, Brazil. (Symposium).
- 2008 V EPM - National meeting on the minimum processing of fruits and vegetables, Universidade Federal de Lavras, Brazil. (Conference).

Abstracts in conferences and other events

Participation in the authorship of abstracts published in annals of events

DINIZ, E.S., HÉDL, R.; CHUDOMELOVÁ, M. Crossed-effects of environmental and land use factors in the phylogenetic diversity and structure of forests in the Czech Republic. *In: Congresses of the European Society for Evolutionary Biology*. Prague, Czech Republic. Abstracts, 2022.

DINIZ, E.S; AMARAL, C. H; SARDINHA, S. T; GLERIANI, J. M. Influence of canopy structural parameters on the abundance of individuals and species richness in forest natural gaps in the Zona da Mata Mineira. *In: Symposium de Integração Acadêmica, 2018, Viçosa-MG, Brazil. Resumos. 2018.*

COSTA, R. O; **DINIZ, E.S**; MULLER, L. A. C; SILVA, M. S. Floral visitors of *Chresta scapigera* (Less.) in South of Minas Gerais State, Brazil. *In: XIII Congresso de Ecologia, Viçosa-MG, Brazil. Anais. 2017.*

DOMEN, Y. M; TOLENTINO, G. S; **DINIZ, E.S**; MEIRA-NETO, JOÃO A.A. Niche conservatism of woody plants in Cerrado communities with different soil type. *In: XIII Congresso de Ecologia, Viçosa-MG, Brazil. Anais. 2017.*

FIALHO, I. F; **DINIZ, E.S**; GASTAUER, MARKUS; NERI, A. V. Phylobetadiversity and phylogenetic niche conservatism of Mountaintop Grasslands in Minas Gerais State, Brazil. *In: XIII Congresso de Ecologia, Viçosa-MG, Brazil. Anais. 2017.*

PINTO-JUNIOR, H. V; **DINIZ, E.S**. Phylogenetic structure of plant communities on Inselbergs in the State of Espírito Santo, Brazil. *In: XIII Congresso de Ecologia, Viçosa-MG, Brazil. Anais. 2017.*

OLIVEIRA-JUNIOR, N. D; **DINIZ, E.S**; AVILA-JR, R. S. Phylobetadiversity among communities under different levels of disturbance and non-native species in Pampa Biome, South of Brazil. *In: XIII Congresso de Ecologia, Viçosa-MG, Brazil. Anais. 2017.*

FIALHO, I. F; **DINIZ, E.S**; PINTO-JUNIOR, H. V; NERI, A. V. Floristic relationships among plant communities on Brazilian Rock Outcrops. *In: XIII Congresso de Ecologia, Viçosa-MG, Brazil. Anais. 2017.*

DINIZ, E.S; GASTAUER, M; THIELE, J; MEIRA-NETO, J.A.A. The influence of mortality in the current phylogenetic structure of Atlantic Forests communities. *In: ISBI - International Symposium on Biological Invasion & II Jornada Botânica, 2016, Viçosa-MG, Brazil. Abstract, 2016.*

DINIZ, E.S; GASTAUER, M; THIELE, J; MEIRA-NETO, J.A.A. The influence of dynamics in older phylogenetic clades of Atlantic Forests communities. *In: ISBI - International Symposium on Biological Invasion & II Jornada Botânica, 2016, Viçosa-MG, Brazil. Abstract, 2016.*

COSTA, R. O; **DINIZ, E.S;** MÜLLER, L. A. C. Phenological monitoring of *Chresta scapigera* (Less.) in a stretch of Campo Rupestre in the south of Minas Gerais, Brazil. *In: ISBI - International Symposium on Biological Invasion & II Jornada Botânica, 2016, Viçosa-MG, Brazil. Abstract, 2016.*

COELHO, A. J. P; **DINIZ, E.S;** AQUINO, L. R; MEIRA-NETO, JOÃO A.A. Effects of area size on woody biomass stock and basal area on fragments of Cerrado *stricto sensu*. *In: ISBI - International Symposium on Biological Invasion & II Jornada Botânica, 2016, Viçosa-MG, Brazil. Resumo, 2016.*

DINIZ, E. S; SANTOS, R. M; CARVALHO, W. A. C; COELHO, P. A; MOREIRA, A. M. Dinamycs of *Eremanthus erythropappus* (Asteraceae) in Semidecidual Forest within 10 years. *In: II International Symposium of Ecology and Evolution, 2014, Viçosa-MG, Brazil. Anais, 2014.*

DINIZ, E. S; SANTOS, R. M; CARVALHO, W. A. C. Phenology of a forest site in the Serra da Mantiqueira mountain range. *In: I Symposium Internacional de Botânica Aplicada/I Symposium Nacional de Frutíferas do Norte e Nordeste, 2012, Lavras-MG, Brazil. Trabalhos, 2012.*

COELHO, P. A; **DINIZ, E. S;** SOARES JUNIOR, F. J. Spatial autocorrelation of *Lychnophora pinaster* Mart. (Asteraceae), in a Campo Rupestre (Field Rock Outcrop), in the South of Minas Gerais. *In: 62° Congresso Nacional de Botânica, 2011, Fortaleza-CE, Brazil. Resumo, 2011.*

DIAS, H.C.B; COSTA, B.H.G; SILVA JUNIOR, M.B; PÁDUA, M.A; **DINIZ, E. S;** RESENDE, M. L. V. Association of resistance inducers for the management of coffee rust (*Hemileia vastatrix*). *In: XXIII CIUFLA, Lavras-MG. Lavras-MG, Brazil. Resumos, 2010*

DINIZ, E. S; SOARES JUNIOR, F. J. Monitoring of the phenophases of *Roupala montana* Aubl., at the Forest Reserve of Boqueirão, Ingaí, Minas Gerais, Brazil. *In: XVII Congresso da Sociedade Botânica de São Paulo, 2008, Guarulhos-SP, Brazil. Resumos, 2008.*

Participation in the authorship of full abstracts published in annals of events

DINIZ, E.S; SOUZA, S. C. A; SANTOS, R. M; CARVALHO, W. A. C. Phenophase evaluation of *Leandra scabra* Dc. at the Serra da Mantiqueira mountain range, Minas Gerais. *In: IX Congresso Nacional de Meio Ambiente de Poços de Caldas, 2012, Poços de Caldas-MG, Brazil. Resumos, 2012.*

DINIZ, E. S; PALMA, V. H; SOARES JUNIOR, F. J. Cluster analyses for a population of *Lychnophora pinaster* Mart. (Asteraceae) in a *Campo Rupestre* (Field Rock Outcrop), in the South of Minas Gerais. *In: X Congresso de Ecologia do Brasil, 2011, São Lourenço-MG, Brazil. Resumos.*

DINIZ, E. S; COELHO, P. A; SOARES JUNIOR, F. J. Size classes of a population of *Lychnophora pinaster* Mart. (Asteraceae), in a Campo Rupestre (Field Rock Outcrop) site in the South of Minas Gerais. *In: X Congresso de Ecologia do Brasil, 2011, São Lourenço-MG, Brazil. Resumos, 2011.*

DINIZ, E.S; PAVANELLI, A.P; SOARES JUNIOR, F. J. Phenology of *Roupala montana* Aubl. (Proteaceae) in a Cerrado *Stricto Sensu* site in the south of Minas Gerais. *In: IX Congresso de Ecologia do Brasil, 2009, São Lourenço-MG, Brazil. Trabalhos, 2009.*

Technical Production

Development of teaching material

2020 BIOVEG3- Statistical analysis in R. <https://dx.doi.org/10.13140/RG.2.2.12488.26889>

- 2018 BIOVEG2- Statistical analysis in R. <https://dx.doi.org/10.13140/RG.2.2.33917.05602>
- 2017 EcoFilo-phylogenetic analyses of plant communities.
<https://dx.doi.org/10.13140/RG.2.2.12895.97447>
- 2016 BIOVEG1- Statistical analysis in R. <https://dx.doi.org/10.13140/RG.2.2.18272.89603>