CURRICULUM VITAE

Vitor Hugo Freitas Gomes (Gomes, V.H.F.)

1. Personal details and the date of the CV

- Surname: Freitas Gomes
- First names: Vitor Hugo
- Researcher ID: Orcid, https://orcid.org/0000-0002-3855-5584
- Date of the CV: September 14, 2025

2. Degrees

- 2019 PhD in Environmental Science (with honors), Universidade Federal do Pará (UFPA), Belém, Brazil. Included a research stay (sandwich program) at Naturalis Biodiversity Center, Leiden, Netherlands. Contact: Programa de Pós-Graduação em Ciências Ambientais (PPGCA), Universidade Federal do Pará – UFPA. Rua Augusto Corrêa, 01, Campus Universitário do Guamá, Belém, Pará, Brazil – Zipcode 66075–110, email: cambientais@ufpa.br/ppgca.ufpa@gmail.com
- 2012 MSc in Local Development, Universidade Federal do Pará (UFPA), Belém, Brazil.
- 2006 – Degree in Data Processing, Centro Universitário do Pará (CESUPA), Belém, Brazil.

3. Other education and expertise

- 2022 – Capacity Building of Local Governments for Development with Community Participation, Japan International Cooperation Agency (JICA), Japan.
- 2015 – Applied Statistics for Time Series (30h), Universidade Federal do Pará (UFPA), Belém, Brazil.
- 2014 – Introduction to R Statistical Program (40h), Universidade Estadual do Pará (UEPA), Belém, Brazil.
- 2011 – Modeling Workshop – Cenários Project (16h), Museu Paraense Emílio Goeldi (MPEG), Belém, Brazil.

4. Language skills

- Native: Portuguese
- Other language: English (advanced), Spanish (Intermediate), Dutch and Finnish (basic)

5. Current employment

- 2024–Present Postdoctoral Fellow, project *Evolution of Landscapes, Rivers and Biota in Amazonia (EVOAMAZ)*, Department of Biology, University of Turku, Turku, Finland. Field: Environmental Science. Supervisor: Prof. Hanna Tuomisto.
- 2024–Present Docent, Postgraduate Program in Territorial Intelligence and Sustainability, Centro Universitário do Pará (CESUPA), Belém, Brazil.
- 2020–Present Docent, Postgraduate Program in Tropical Botany, Universidade Federal Rural da Amazônia (UFRA), Belém, Brazil.
- 2019–Present Docent, Undergraduate Program in Computer Science, Centro Universitário do Pará (CESUPA), Belém, Brazil.

6. Previous work experience

- 2022–2024 Post-Doctorate fellow, working on climate change effects on ecosystem services and edible species. Biodiversity and Ecosystem Services Group. Instituto Tecnológico Vale (ITV), Belém, Pará, Brazil. Field: Environmental Science Supervisor: Tereza Cristina Giannini.
- 2020–2021 Post-Doctorate fellow, working on climate change effects over Amazonian tree flora according to the Paris Agreement. Institute of Geosciences, Universidade de Federal do Pará (UFPA), Belém, Brazil. Field: Environmental Science. Supervisors: Ima Célia Guimarães Vieira.
- 2018–2019 Development Manager. Economic Development Company of Pará (CODEC), Belém, Pará, Brazil.

7. Research funding and grants

- 2023–2024 Fundação de Ciência, Tecnologia, Inovação e Desenvolvimento Sustentável Guamá (Fundação Guama), “Sustainable use of natural resources in tropical regions”. Grant number 064/2024, Post-doctorate research (R$ 169.500,00).
- 2022–2023 Fundação de Amparo e Desenvolvimento da Pesquisa (FADESP), “Capital Natural da Floresta de Carajás”. Grant number 064/2024, Post-doctorate research (R$ 88.477,00).

- 2021–2022 Fundação de Ciência, Tecnologia, Inovação e Desenvolvimento Sustentável Guamá (Fundação Guama), “Sustainable use of natural resources in tropical regions”. Grant number 064/2024, Post-doctorate research (R$ 49.200,00).
- 2020–2021 Coordination for the Improvement of Higher Education Personnel (CAPES), “Quantification of the climate change effects over Amazonian tree flora according the Paris Agreement”. Grant number 88887.509407/2020-00, Post-doctorate research (R$ 49.200,00).
- 2015–2016 National Council for Scientific and Technological Development (CNPq), “Amazonian tree species barcode (Barcoding Caxiuanã)”. Grant no. 203102/2015-0, Doctorate research developed abroad (R$ 135.870,00)
- 2014–2018 National Council for Scientific and Technological Development (CNPq), “Impacts of climate change and deforestation on Amazonian tree flora”. Grand by Social Demand Program, Doctorate research (R$ 79.200,00).

8. Research output

8.1. Secondary occupations

I have 24 peer-reviewed articles, with 663 citations in Scopus (Database: Scopus) and H-index 16, 1056 citations in Google Scholar (Database: Google Scholar). Research spans quantitative community ecology, species distribution modelling, large-scale analyses of Amazonian biodiversity, conservation, ecosystem services and forest restoration. Publications include papers in Nature, PNAS, Science, Nature Climate Change, Communications Biology, Journal of Biogeography, Biological Conservation, many developed through international collaborations (e.g. ATDN Network, EVOAMAZ Project).

1) **Gomes, V. H. F**., Andrino, C. O., Barbosa-Silva, R. G., Acosta, A. L., González-Chaves, A. D., Slätis, J., Giannini, T. C. 2025. Food insecurity under global human-induced changes: Plants of the future in the Amazonian biome. Biological Conservation, 311, 111398.
2) Correa, S. B., Coronado-Franco, K. V., Jézéquel, C. , Cantarute-Rodrigues, A., Evans, K. O., Granger, J. J., ter Steege, H., Leão do Amaral, I., **Gomes, V. H. F.**, *et.al* . 2025. Floodplain forests drive fruit-eating fish diversity at the Amazon Basin-scale. Proceedings of the National Academy of Sciences of the United States of America, 122, e2414416122.
3) ter Steege, H., Poorter, L., Aguirre-Gutiérrez, J., Fortunel, C., Magnusson, W. E., Phillips, O. L., Pos, E., Luize, B. G., Baraloto, C., Guevara, J. E. **Gomes, V. H. F**., *et.al*. 2025. Functional composition of the Amazonian tree flora and forests. Communications Biology, 8, 1.
4) Silva, D. da S. E., Girotto, A. das D. S., Santos, C. B. dos, Paula, W. T., Araujo, F. Rocha de, **Gomes, V. H. F**., Sousa, M, P. A. de. 2025. Interactive panels for the promotion of Environmental Education and Sustainable Tourism in the Amazon: a report of the experience in the APA of Ilha do Combu (PA, Brazil). Revista Brasileira De Educação Ambiental (online), 20, 405-421.
5) Cooper, D. L. M. , Lewis, S. L. , Sullivan, M. J. P. , Prado, P. I., ter Steege, H., Barbier, N., Slik, F., Sonké, B., Ewango, C. E. N., Adu-Bredu, S., Affum-Baffoe, K., de Aguiar, D. P. P., Ahuite-Reategui, M. A., Aiba, S. I. , Albuquerque, B. W., de Almeida-Matos, F. D., Alonso, A., Amani, C. A., do Amaral, D. D., **Gomes, V. H. F**., *et al*. 2024. Consistent patterns of common species across tropical tree communities. Nature, 1, 1-10.
6) Luize, B. G., Bauman, D., ter Steege, H, Palma-Silva, C., do Amaral, I. L. , de Souza-Coelho, L., de Almeida-Matos, F. D., de Andrade Lima Filho, D., Salomão, R. P., Wittmann, F., **Gomes, V. H. F**., *et.al*. 2024. Geography and ecology shape the phylogenetic composition of Amazonian tree communities. Journal of Biogeography, 00, 1-22.
7) Householder, J. E., Wittmann, F., Schöngart, J., Piedade, M. T. F., Junk, W. J., Latrubesse, E. M., Quaresma, A. C., Demarchi, L. O., Lobo, G. de S., Aguiar, D. P. P. de, Assis, R. L., Lopes, A., Parolin, P., do Amaral, I. L. , de Souza-Coelho, L., de Almeida-Matos, F. D., de Andrade Lima Filho, D., Salomão, R. P., Castilho, C. V. , **Gomes, V. H. F**., *et.al*. 2024. One sixth of Amazonian tree diversity is dependent on river floodplains. Nature Ecology & Evolution, v. 1,
8) Luize, B. G., Tuomisto, H. Ekelschot, R., Dexter, K. G., do Amaral, I. L., de Souza-Coelho, L., de Almeida-Matos, F. D., de Andrade Lima Filho, D., Salomão, R. P., Castilho, C. V., Diógenes De Andrade , Salomão, Rafael P., Wittmann, F., Castilho, Carolina V., Carim, M. de J. V., Guevara, J. E. Phillips, O. L., Magnusson, W. E., Sabatier, D., **Gomes, V. H. F.** *et.al*. 2024. The biogeography of the Amazonian tree flora. Communications Biology, 7, 1240.
9) Sanchez-martinez, P., D. K. G., Draper, F. C. , Baraloto, C., Leão do Amaral, I., de Souza Coelho, L., de Almeida-Matos, F. D., de Andrade Lima Filho, D. **Gomes, V. H. F.**, *et.al*. 2024. Phylogenetic conservatism in the relationship between functional and demographic characteristics in Amazon tree taxa. Functional Ecology, 1, 1-18.
10) Paracampo, A., Maia, U. M., **Gomes, V. H. F.**, de Sousa Miranda, L., Giannini, T. C. 2023. New geographic record in eastern Amazon Forest and potential distribution of Amphidecta calliomma (Lepidoptera: Nymphalidae). Ecology and Evolution, 13, 1-6.

11) Pos, E., De Souza Coelho, L., De Andrade Lima Filho, D., Salomão, R. P., Amaral, I. L., De Almeida Matos, F. D., Castilho, C. V., Phillips, O. L., Guevara, J. E., De Jesus Veiga Carim, M. López, D. C., Magnusson, W. E., Wittmann, F., Irume, M. V., Martins, M. P., Sabatier, D., Da Silva Guimarães, J. R., Molino, J.-F., Bánki, O. S., Piedade, M. T. F., Pitman, N. C. A., Mendoza, A. M., Ramos, J. F., Hawes, J. E., Almeida, E. J., **Gomes, V. H. F**., *et al*. 2023. Unraveling Amazon tree community assembly using Maximum Information Entropy: a quantitative analysis of tropical forest ecology. Scientific Reports, 13, 2859.
12) ter Steege, H., Fortes, E. A., Rozendaal, D.M.A., Erkens, R. H. J., Sabatier, D., Aymard, G., Duijm, E., Eurlings, M., Grewe, F., Pombo, M. M., **Gomes, V. H. F.**, Mansano, V. de F., De Oliveira, S. M. 2023. Molecular phylogeny and evolution of inflorescence types. American Journal of Botany.
13) Peripato, V., Levis, C., Moreira, G. A., Gamerman, D., Ter Steege, H., Pitman, N. C. A., Souza, J. G., Iriarte, J., Robinson, M., **Gomes, V. H. F.**, *et al*. 2023. More than 10,000 pre-Columbian earthworks are still hidden throughout Amazonia. Science, 382, 103-109.
14) Carvalho, R. L., Resende, A. F., Barlow, J., França, F. M., Elias, F. Silveira, J. M. Stegmann, L., Baccaro, F. B., Juen, L., Schietti, J., Aragão, L., Berenguer, E., Castello, L., Costa, F. R. C. Guedes, M. L., Leal, C. G., Lees, A. C., Isaac, V., Nascimento, R. O., Phillips, O. L., Schmidt, F. A., ter Steege, H., Vaz-De-Mello, F., Venticinque, E. M., Vieira, I. C. G., **Gomes, V. H. F.,** *et al*. 2023. Pervasive gaps in Amazonian ecological research. Current Biology, 33, 1-10.
15) Correa, D. F., Stevenson, P. R., Umaña, M. N., Coelho, L. de S., Salomão, R. P.... & **Gomes, V. H. F**. 2023. Geographic patterns of tree dispersal modes in Amazonia and their ecological correlates. Global Ecol Biogeogr, 32, 49–69.
16) ter Steege, H., Prado, P. I., de Lima, R. A., Pos, E., de Souza Coelho, L., **Gomes, V. H. F**., ... & Phillips, O. L. 2020. Biased-corrected richness estimates for the Amazonian tree flora. Scientific Reports, 10, 1-13.
17) **Gomes, V. H. F**., Mayle, F. E., Gosling, W. D., Vieira, I.C.G., Salomão, R.P., ter Steege, H. 2020. Modelling the distribution of Amazonian tree species in response to long-term climate change during the Mid-Late Holocene. Journal of Biogeography, 47,1530– 1540.
18) Salomão, R. P., Hage, A. L. F., Brienza Júnior, S., Salomão, G. N., **Gomes, V. H. F.** 2019. Espécies estruturantes para a restauração florestal de áreas mineradas. Brazilian Journal of Development, 5, 876-886.
19) Salomão, R. P., **Gomes, V. H. F.**, Brienza Júnior, S., Salomão G. N., Hage, A. L. F. 2019. Indicadores de sustentabilidade da restauração florestal em áreas mineradas na Amazônia. Brazilian Journal of Development., 5, 1251-1259.
20) ter Steege, H., Henkel, T. W., Helal, N., Marimon, B. S., Marimon-Junior, B. H., **Gomes, V. H. F**., ... & Salomão, R. P. 2019. Rarity of monodominance in hyperdiverse Amazonian forests. Scientific reports, 9, 1-15.
21) **Gomes, V. H. F**., Vieira, I. C., Salomão, R. P., & ter Steege, H. 2019. Amazonian tree species threatened by deforestation and climate change. Nature Climate Change, 9, 547-553.
22) **Gomes, V. H. F**., IJff, S. D., Raes, N., Amaral, I. L., Salomão, R. P., de Souza Coelho, L., *et al.* 2018. Species Distribution Modelling: Contrasting presence-only models with plot abundance data. Scientific reports, 8, 1-12.
23) ter Steege, H., Sabatier, D., Mota de Oliveira, S., Magnusson, W. E., Molino, J. F., **Gomes, V. H. F**., ... & Salomão, R. P. 2017. Estimating species richness in hyper-diverse large tree communities. Ecology, 98, 1444-1454.
24) Salomão, R. P., Santana, A. C., Brienza Júnior, S., **Gomes, V. H. F.** 2012. Análise fitossociológica de floresta tropical primária densa da Amazônia e determinação de espécies-chave através de análise multivariada. Boletim do Museu Paraense Emilio Goeldi - Ciencias Naturais, 07, 57-102.

9. Research supervision and leadership experience

9.1. Research supervision

I have supervised 25 students across different levels, including 2 PhD (1 supervisor, 1 co-supervisor), 3 Master's dissertations (2 supervisor, 1 co-supervisor), and 20 Undergraduate projects (17 supervisor, 3 co-supervisor). These activities reflect continuous engagement in undergraduate and postgraduate training since 2017.

- Current Inaê Vilhena de Souza. PhD thesis, Universidade Federal Rural da Amazônia, Brazil (supervisor).
- Current Maricélia Gonçalves Barbosa. PhD thesis, Universidade Federal Rural da Amazônia, Brazil (co-supervisor).
- Current Ricardo Carneiro Raymundo. Centro Universitário do Estado do Pará, Brazil (co-supervisor).
- Current Adib Said Cavaleiro De Macêdo Aboul Hosn. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- Current Fabio Gabriel Barros Oliveira. Undergraduate project, Centro Universitário do Estado do Pará, Brazil (supervisor).
- Current Guilherme Tadayuki Yokokura. Undergraduate project, Centro Universitário do Estado do Pará, Brazil (supervisor).
- Current Joao Vitor Farias De Farias. Undergraduate project, Centro Universitário do Estado do Pará, Brazil (supervisor).

- 2025 Inaê Vilhena de Souza. Master dissertation, Universidade Federal Rural da Amazônia, Brazil (supervisor).
- 2025 João Renan Santanna Lopes. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2024 Israel Queiroz Aires. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2023 Victória de Paula Paiva Teresawa, Master's dissertation, Universidade Federal Rural da Amazônia, Brazil (supervisor).
- 2023 Abimael Ferreira de Oliveira. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2023 Carlos Eduardo Nylander Bitencourt Dias. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2023 Rafael Luís Carvalho Barros. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2023 Eduardo Maeda de Oliveira Araújo. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2023 Ocivaldo Bruno Nascimento dos Santos. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2022 André Akira Prazeres Yamase. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2022 Larissa Nascimento Negrão. Undergraduate project, Centro Universitário do Pará (supervisor).
- 2022 Renan Figueiredo Carneiro. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2021 André Paes de Lima Soares. Undergraduate project, Centro Universitário do Pará (supervisor).
- 2021 Isabelle Tavares Silva Santos. Undergraduate project, Centro Universitário do Pará (supervisor).
- 2020 Alvaro Somensi Magnenti. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2020 Vitor Henrique Moreira de Souza. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2020 Anne Beatriz Martins Goncalves. Undergraduate project, Centro Universitário do Pará, Brazil (supervisor).
- 2020 Camila Fernandes Barra. Master dissertation. Universidade Federal Rural da Amazônia, Brazil (co-supervisor).
- 2018 Letícia Porto Picanço. Undergraduate Project. Universidade Estadual do Pará, Brazil (co-supervisor).
- 2017 André Luis Ferreira Hage. Undergraduate project. Universidade Estadual do Pará, Brazil (co-supervisor).

9.2. Leadership experience

- Steering Committee member (2022–present) of the Pará State Systems on Climate Change (COGES-CLIMA), contributing to strategic planning and policy-science interface on climate adaptation and mitigation.
- Strategy and Institutional Relations Advisor (2020–2024), Economic Development Company of Pará (CODEC), coordinating research-based strategies for sustainable economic development and institutional partnerships.
- Development Manager (2018–2019), CODEC, leading applied projects on environmental sustainability and regional planning.
- Research leadership in biodiversity projects: Coordinated postdoctoral research at Instituto Tecnológico Vale and UFPA (2020–2024), integrating multi-institutional collaborations on climate change, ecosystem services, and species selection for restoration (ATDN, EVOAMAZ).

10. Teaching merits

- Teaching experience: Over 10 years of teaching at undergraduate and postgraduate levels. Since 2019, courses in Computer Science (Algorithms, Image Processing, Research Methodology) at CESUPA. Since 2021, courses in Environmental Sciences (Ecology, Statistical and Species Distribution Modeling) at UFRA/MPEG.
- Pedagogical expertise: Research-based teaching integrating biodiversity data, geospatial analysis, and climate change scenarios. Development of interdisciplinary modules linking ecology, computer science, and sustainability.
- Collaborative development: Creation of teaching materials for postgraduate programs; involvement in supervision of 25 theses and projects, enhancing student-led research capacity.

11. Awards and honours

- 2019 CAPES 2019 National Thesis Award for the best thesis in Environmental Science, Brasilia, Brazil.

12. Other key academic merits

12.1. Pre-examiner or opponent of a doctoral dissertation; memberships in doctoral dissertation committees or boards

- 2025 PhD jury member Ecology Program, Federal University of Goias, Goiania, Brazil.
- 2023 MSc jury member Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.
- 2024 PhD jury member Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.

- 2023 PhD jury member, Environmental Sciences Program, University of the State of Pará, Belém, Brazil.
- 2023 PhD jury member Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.
- 2023 MSc jury member, Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.
- 2023 MSc jury member, Environmental Sciences Program, University of the State of Pará, Belém, Brazil.
- 2022 MSc jury member, Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.
- 2022 MSc jury member, Environmental Sciences Program, University of the State of Pará, Belém, Brazil.
- 2021 MSc jury member, Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.
- 2021 MSc jury member, Environmental Sciences Program, University of the State of Pará, Belém, Brazil.
- 2020 MSc jury member, Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.
- 2019 MSc jury member, Environmental Sciences Program, University of the State of Pará, Belém, Brazil.
- 2019 MSc jury member, Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.

12.2. Memberships in national or international expert, evaluation or steering groups and other expert roles

- 2022–Present Member of the Steering Committee of the Pará State Systems on Climate Change (COGES-CLIMA), Belém, Pará, Brazil.

12.3. Referee for scientific publications

- 2019-2025 Reviewer of 30 manuscripts in the following peer reviewed journals: Nature Climate Change, Annals of Forest Science, Biodiversity and Conservation, Environmental Conservation, Plant Ecology and Diversity, Diversity and Distributions, Global Change Biology, Global Ecology & Conservation, Journal of Biogegraphy, Scientific Reports, Theoretical and Applied Climatology, Biodiversity Data Journal, Journal of Applied Ecology, Nature Communications, Oikos, Regional Environmental Change.

12.4. Higher education roles

- Strategy and Institutional Relations Advisor (2020–2024) at the Economic Development Company of Pará (CODEC), coordinating science-policy integration and sustainability projects.

12.5. Invited lectures

- What pollen can tell us about Amazonian tree species distribution? 2020. Palynology Talks – The Palynological Society.
- Global changes and their impact on Amazonian biodiversity. 2019. I Seminário PPGBE, Museu Paraense Emilio Goeldi, Belém, Brazil.

12.6. Inter-disciplinary activities

- 2015-2017 Invited expert, Development and availability of free software access for restoration of degraded legal reserve (arl) and permanent preservation (app) areas in Amazonia.

12.7. Conferences and invited presentations

- Gomes, V.H.F. 2025. Food insecurity under global human-induced changes: plants of the future in the Amazonian biome. In: European Conference for Tropical Ecology.
- Gomes, V.H.F. 2023. Usos das árvores por comunidades tradicionais. 73o Congresso Nacional de Botânica. 2023.

13. Scientific and societal impact

- Open science: Active in producing and sharing large-scale biodiversity datasets (ATDN, restoration prioritization frameworks, geospatial platforms), with commitment to EU Open Science policies and open-access publishing.
- Research utilization: Outputs applied in biodiversity conservation, forest restoration planning, and climate policy (e.g. Pará State Climate System, Planaveg discussions).
- Responsible research: Engagement in multi-institutional collaborations (EVOAMAZ, ATDN, ITV) with transparent data practices and methodological reproducibility.