

Curriculum Vitae

Dr. Victor Hugo Rohden Prudente

Research Fellow

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Research Focus

My research centers on leveraging combined multisensor data for Land Use and Land Cover (LULC) monitoring, with a specific focus on applying diverse data sources—such as optical and synthetic aperture radar (SAR) imagery—for detailed crop mapping and monitoring. Currently, as a research fellow (postdoctoral researcher) at the University of Michigan, I am developing remote sensing products designed to accurately estimate crop sowing times, areas, and dynamics within smallholder farming systems. This research aims to provide critical insights into farmer management practices and impacts, offering pathways to enhance agricultural resilience and sustainability.

Education:

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| 2017-2021 | Ph.D. in Remote Sensing
National Institute for Space Research (INPE) – Brazil
Thesis Title: Multisensor Optical-SAR Approach to Land Use and Land Cover Characterization in Roraima
Advisors: Dr. Ieda Del’Arco Sanches and Dr. Marcos Adami
Internship at University of Maryland (UMD)– USA (Oct/2019 to Sep/2020)
Foreign Advisor: Dr. Sergii Skakun |
| 2015-2017 | M.S. in Agricultural Engineering
Western Paraná State University – Brazil
Dissertation title: Use of terrestrial remote sensing to characterize the spectro-temporal dynamics of soybean and beans
Advisors: Dr. Erivelto Mercante and Dr. Jerry Adriani Johann |
| 2010-2014 | B.S. in Agricultural Engineering (with honors)
Western Paraná State University – Brazil |

Career/Employment

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| 2022/October –
Now | Research Fellow (Postdoctoral Fellow) - University of Michigan
School for Environment and Sustainability
PI: Dr. Meha Jain |
| 2021/April to
2022/September | Data Scientist at Newe Seguros
Worked with Remote Sensing data, optical and microwave, and the Google Earth Engine platform to create products for supporting crop insurance decisions. |

2020/November to 2021/March Researcher at Santos Lab
 Worked with Remote Sensing data, optical and microwave, to create new products for agriculture monitoring.

Achievements and Awards:

- 2014 Second Placed for best student** - Agricultural Engineering Undergraduate Western Paraná State University – Brazil
- 2014 27th Paraná State Science and Technology Awards - Best Undergraduate Student,** Department of Science, Technology and Higher Education - SETI.

Complementary Education

- 2018 TAT-6: Integration of Radar and Optical Remote Sensing in Studying LCLUC. (88h).** European Space Agency, ESA-ESRIN. In: Croatia
- 2017 European Space Agency – Introduction to Radar Remote Sensing. (15h).** European Space Agency, ESA. (Online).
- 2016 Application of Satellite Remote Sensing to Support Water Resources Management. (56h).** Applied Remote Sensing Training - NASA, ARSET NASA. In: Brazil

Publication List

Journal articles (under review)

1. **Prudente, V. H. R.;** Garcia-Medina, M.; Krishna, V.; Euler, M.; Bhattarai, N.; Lerner, A. M.; McDonald, A. J.; Sherpa, S.; Rajan, H.; Urfels, A.; Santana, C. T. C.; Jain, M. *Mapping Grain Crop Start of Season in Smallholder Systems Using Optical Imagery.. Remote Sensing Applications: Society and Environment* [In Review]
2. Jain, M.; **Prudente, V. H. R.;** Zhou, W.; Deshpande, M.; Bhattarai, N.; Ishtiaque, A.; Pathak, H.; Sing, B. *Tradeoffs between crop yield, agricultural residue burning, and groundwater depletion in India's wheat belt. PNAS* [In Review]
3. Islam, S.; Garcia, A. D. B.; Sanches, I. D.; **Prudente, V. H. R.;** Cheng, I. *Remote Sensing-Based Rice Mapping in Brazil: Identifying the Best Approach for Segmenting Different Spectral Compositions using Deep Learning. Remote Sensing Applications: Society and Environment* [In Review]
4. Chaves, M.; Adami, M.; Oldoni, L.; Rodigheri, G.; **Prudente, V. H. R.;** Santana, C.; Garcia, A.; Covre, R.; Sanches, I. D. *GEEadas: GEE-based automatic detection of adverse-frost stress. Remote Sensing Applications: Society and Environment* [In Review]
5. Santana, C. T. C.; Adami, M.; **Prudente, V. H. R.;** Garcia, A. D. B.; Caldas, M. M. *Crop Phenology Derived from HLS Data Using Different Vegetation Indices. Remote Sensing* [In Review]

Journal articles (peer-reviewed)

1. Santos, P. A.; Adami, M.; Picoli, M.A.; **Prudente, V. H. R.;** Esquerdo, J. C. D. M.; Queiroz, G. R.; Santana, C. T. C.; Chaves, M. E. D. *Land Use and Land Cover Products for Agricultural Mapping Applications in Brazil: Challenges and Limitations. Remote Sensing* [Accepted]

2. Garcia, A. D. B.; Sanches, I. D.; **Prudente, V. H. R.**; Trabaquini, K. *Characterization of Irrigated Rice Cultivation Cycles and Classification in Brazil Using Time-Series Similarity and Machine Learning Models with Sentinel Imagery*. AgriEngineering, v. 7, p. 1-36, 2025. <https://doi.org/10.3390/agriengineering7030065>
3. Munhos, H. M.; Francisco, B. S.; **Prudente, V. H. R.**; Mercante, E.; Temponi, L. G. *Forest fragmentation dynamics in the direct influence area of Iguaçu National Park, Brazil*. Environmental Monitoring and Assessment, v. 197, p1-13, 2025. <https://doi.org/10.1007/s10661-025-13801-4>
4. Garcia, A. D. B.; Islam, S.; **Prudente, V. H. R.**; Sanches, I. D.; Cheng, I. *Irrigated rice-field mapping in Brazil using phenological stage information and optical and microwave remote sensing*. Applied Computing and Geosciences, v. 25, p. 1-14, 2025. <https://doi.org/10.1016/j.acags.2025.100223>
5. Garcia, A. D. B.; **Prudente, V. H. R.**; Silva, D. T.; Chaves, M. E. D.; Trabaquini K.; Sanches, I. D. *Detailed Mapping of Irrigated Rice Fields Using Remote Sensing data and Segmentation Techniques: A case of study in Turvo, Santa Catarina, Brazil*. Journal of Information and Data Management, v. 16, p. 1-18, 2025. <https://journals-sol.sbc.org.br/index.php/jidm/article/view/4181>
6. Garcia, A. D. B.; Celeste, J. Jr.; Cheng, I.; **Prudente, V. H. R.**; Sanches, I. D. *Evaluation of multiple SAR speckling filter techniques performance in irrigated rice areas*. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, v. XLVIII-3-2024, p. 169-176, 2024. <https://doi.org/10.5194/isprs-archives-XLVIII-3-2024-169-2024>
7. Cunha, I. A.; Baptista, G. N. M.; **Prudente, V. H. R.**; Melo, D. D.; Amaral, L. R. *Integration of Optical and SAR Data with Different SAR Image Processing Techniques and Development Stages to Improve Soybean Yield Prediction*. Agriculture, v.14, p. 1-21, 2024. <https://doi.org/10.3390/agriculture14112032>
8. Oldoni, L. V.; Sanches, I. D.; Picoli, M.; **Prudente, V. H. R.**; Adami, M. *Geometric accuracy assessment and a framework for automatic sub-pixel registration of WFI images from CBERS-4, CBERS-4A, and Amazonia-1 satellites*. Remote Sensing Applications: Society and Environment, v. 28, p. 1-22, 2022, <https://doi.org/10.1016/j.rsase.2022.100844>
9. Vieira, D. C.; Sanches, I. D.; Montibeller, B.; **Prudente, V. H. R.**; Hansen, M.C.; Baggett, A.; Adami, M. *Cropland expansion, intensification, and reduction in Mato Grosso state, Brazil, between the crop years 2000/01 to 2017/18*. Remote Sensing Applications: Society and Environment, v. 28, p. 1-18, 2022, <https://doi.org/10.1016/j.rsase.2022.100841>
10. **Prudente, V. H. R.**; Skakun, S.; Oldoni, L. V.; Xaud, H. A. M.; Xaud, M.; Sanches, I. D.; Adami, M.; *Multisensor approach to Land Use and Land Cover Mapping in Brazilian Amazon*. ISPRS Journal of Photogrammetry and Remote Sensing, v.189, p. 95-109, 2022, <https://doi.org/10.1016/j.isprsjprs.2022.04.025>
11. Ganascini, D.; Mendes, I. S.; Caon, I. L.; Cattani, C. E. V.; Mercante, E.; Machado Coelho, S.R.; Viana, O. H.; **Prudente, V. H. R.**; *Evaluation of bean desiccation plants with diquat and glufosinate-ammonium using terrestrial hyperspectral sensor*. Australian Journal of Crop Science, v.16, p. 216-226, 2022, <https://doi.org/10.21475/ajcs.22.16.02.3344>

12. Oldoni, L. V.; Mercante, E.; Antunes, J. F. G.; Cattani, C. E. V.; Silva Junior, C. A.; Caon, I. L.; **Prudente, V. H. R.** *Extraction of crop information through the spatiotemporal fusion of OLI and MODIS images*. Geocarto International, v.37, p. 8336-8360, 2021. <https://doi.org/10.1080/10106049.2021.2000648>
13. **Prudente, V. H. R.**; Mercante, E.; Johann, J. A.; Souza, C. H. W.; Oldoni, L. V.; Almeida, L.; Becker, W.; Silva, B. B. *Comparison Between Vegetation Index Obtained by Active and Passive Proximal Sensors*. Journal Of Agricultural Studies, v. 09, p. 392-405, 2021. <https://doi.org/10.5296/jas.v9i2.18462>
14. **Prudente, V. H. R.**; Martins, V. S.; Vieira, D. C.; Silva, N. R. F.; Adami, M.; Sanches, I. D. *Limitations of cloud cover for optical remote sensing of agricultural areas across South America*. Remote Sensing Applications: Society and Environment, v. 20, p. 1-14, 2020. <https://doi.org/10.1016/j.rsase.2020.100414>
15. Sanches, I. D.; Feitosa, R. Q.; Montibeller, B.; Achancaray Diaz, P. M.; Luiz, A. J. B.; Soares, M. D.; **Prudente, V. H. R.**; Vieira, D. C.; Murano, L. E. P.; Happ, P. N.; Chamorro, J.; Oldoni, L. V. *First results of the LEM benchmark database for agricultural applications*. ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, v. XLIII-B5-2020, p. 251-256, 2020. <https://doi.org/10.5194/isprs-archives-XLIII-B5-2020-251-2020>
16. Oldoni, L. V.; **Prudente, V. H. R.**; Diniz, J. M. F. S.; Wiederkehr, N. C.; Sanches, I. D.; Gama, F. F. *Polarimetric SAR data from Sentinel-1a applied to early crop classification*. ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, v. XLIII-B3-2020, p. 1039-1046, 2020. <https://doi.org/10.5194/isprs-archives-XLIII-B3-2020-1039-2020>
17. **Prudente, V. H. R.**; Mercante, E.; Johann, J. A.; Souza, C. H. W.; Cattani, C. E. V.; Mendes, I. S.; Caon, I. L. *Use of terrestrial remote sensing to estimate soybeans and beans biophysical parameters*. Geocarto International, v. 36, p. 773-790, 2019. <https://doi.org/10.1080/10106049.2019.1624982>
18. **Prudente, V. H. R.**; Oldoni, L. V.; Vieira, D. C.; Cattani, C. E. V.; Sanches, I. D. *Relationship between SAR/Sentinel-1 Polarimetric and interferometric data with biophysical parameters of agricultural crops* ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences. v.WG III/10, p. 599-607, 2019. <https://doi.org/10.5194/isprs-archives-XLII-3-W6-599-2019>
19. Girolamo-Neto, C. D.; Sanches, I. D.; N., Kasahara, A.; **Prudente, V. H. R.**; Körting, T. S.; Picoli, M. C. A.; Aragão, L. E. O. C. *Assessment of Texture Features for Bermudagrass (Cynodon dactylon) Detection in Sugarcane Plantations*. Drones, v. 3, p. 1-15, 2019. <https://doi.org/10.3390/drones3020036>
20. Sanches, I. D.; Feitosa, R. Q.; Achancaray, P.; Montibeller, B.; Luiz, A. J. B.; Soares, M. D.; **Prudente, V. H. R.**; Vieira, D. C.; Maurano, L. E. P. *LEM benchmark database for tropical agricultural remote sensing application*. ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, v.XLII-1, p.387 - 392, 2018. <https://doi.org/10.5194/isprs-archives-XLII-1-387-2018>
21. Wrublack, S C.; Mercante, E.; Vilas Boas, M.A; **Prudente, V. H. R.**; Silva, J. L. G. *Variation of water quality along a river in an agricultural watershed with support of geographic information systems and multivariate analysis*. Engenharia Agricola, v. 38, p. 74-81, 2018. <https://doi.org/10.1590/1809-4430-Eng.Agric.v38n1p74-81/2018>

22. Remor, M. B.; Sampaio, S. C.; Model, K. J.; Falco, T. D.; **Prudente, V. H. R.** *Mercury in the sediment of Pelotas river basin, Brazil*. Engenharia Agricola, v. 38, p. 117-123, 2018. <http://dx.doi.org/10.1590/1809-4430-Eng.Agric.v38n1p117-123/2018>
23. **Prudente, V. H. R.**; Silva, B. B.; Johann, J. A.; Mercante, E.; Oldoni, L. V. *Comparative assessment between per-pixel and object-oriented for mapping land cover and use*. Engenharia Agricola., v.37, p.1015 - 1027, 2017. <http://dx.doi.org/10.1590/1809-4430-Eng.Agric.v37n5p1015-1027/2017>
24. Wrublack, S.C.; Mercante, E.; Correa, M. M.; **Prudente, V. H. R.**; Silva, J.L.G.; Vilas Boas, M. A. *Geotechnologies in mapping on land use and cover in an agricultural watershed*. Revista Geama, v. 8, p. 5-9, 2017. <http://www.journals.ufrpe.br/index.php/geama/article/view/1369>
25. Wrublack, S. C.; Mercante, E.; **Prudente, V. H. R.**; Silva, J. L. G.; Vilas Boas, M. A.; Oldoni, L. V. *Geotechnologies and multivariate statistics applied to water resources management in a predominantly agricultural watershed*. International Journal of Food, Agriculture and Environment, v. 13, p. 201-209, 2015. <https://doi.org/10.1234/4.2015.3991>
26. **Prudente, V. H. R.**; Souza, C. H. W.; Mercante, E.; Johann, J. A.; Uribe-Opazo, M. A. *Spatial statistics applied to soybean production data from Paraná State for 2003-04 to 2009-10 crop-years*. Engenharia Agricola, v. 34, p. 755-769, 2014. <https://doi.org/10.1590/S0100-69162014000400015>
27. Souza, C. W.; Mercante, E.; **Prudente, V. H. R.**; Justina, D. D. D. *Methods of performance evaluation for the supervised classification of satellite imagery in determining land cover classes*. Ciencia e Investigacion Agraria., v.40, p.419 - 428, 2013. <http://dx.doi.org/10.4067/S0718-16202013000200016>
28. Wrublack, S. C.; **Prudente, V. H.R.**; Mercante, E.; Machado Coelho, S.R. *Spatial distribution of Canola culture in the State of Paraná (Brazil) between the agricultural years of 2005 and 2009*. Ciencia e Investigacion Agraria, v. 40, p. 523-535., 2013. <http://dx.doi.org/10.4067/S0718-16202013000300005>

Books

1. Wrublack, S.C.; Mercante, E.; Xavier, A. H.; Silva, B. B.; Neneve, F.; Silva, J. L. G.; Reginatto, J. H.; Marcondes, L.; Vilas Boas, M. A.; **Prudente, V. H. R.** *GIS as a tool for water resources management: Lontra Rivers Microbasin study case*. (In Portuguese) 1. ed. Cascavel: EDUNIOESTE, 2017. v. 1. 83p.

Book Chapters

1. **Prudente, V. H. R.**; Oldoni, L. V.; Wrublack, S.C.; Mercante, E. . *Erosive susceptibility analysis in the micro basin of Lontras rivers in southwest Paraná by multi-criteria analysis*. (In Portuguese) In: 2015 Brazilian Congress of Agricultural Engineering Book. 1 ed.: SBEA.
2. Oldoni, L. V.; Mercante, E.; **Prudente, V. H. R.**; Kusminski, D.; Silva, B. B. *Identification of soybean and corn areas using Landsat-8 image classification methods*. (In Portuguese). In: 2015 Brazilian Congress of Agricultural Engineering Book. 1 ed.: SBEA.

3. Lima, L. E. P.; Lima, P. H. P.; **Prudente, V. H. R.**; Souza, C. H. W.; Mercante, E. *Mapping of the expansion of the perimeter irrigated by a central pivot in the municipality of Unaí-MG using geoprocessing techniques*. (In Portuguese). In: 2012 Brazilian Congress of Agricultural Engineering Book. 1 ed.: SBEA.
4. Lima, L. E. P.; Justina, D. D. D.; Prudente, V. H. R.; Mercante, E.; Opazo, M. A. U. *Estimated area planted with soybean by digital processing of Landsat 5/TM satellite images*. (In Portuguese). In: 2011 Brazilian Congress of Agricultural Engineering Book. 1 ed.: SBEA.

Complete works published in proceedings of conferences.

1. Queiroz, H. A. A.; Sanches, I. D.; **Prudente, V. H. R.**; Santos, L. G.; Santos, G. M. S. S.; Souza E. D.; Souza, J. A. M. Assessing Grapevine's Polarimetric Dynamics Using Dual-Pol Sentinel-1: A Case Study in Guanambi, Bahia, Brazil. In: XXI Brazilian Symposium on Remote Sensing, 2025, Salvador
2. Garcia, A. D B.; **Prudente, V. H. R.**; Sanches, I. D, Identification of Initial Stages of Irrigated Rice-Fields Utilizing Sentinel-2 Imagery and a Machine Learning Algorithm. In: XXI Brazilian Symposium on Remote Sensing, 2025, Salvador.
3. Garcia, A. D B.; Chaves, M. E. D.; **Prudente, V. H. R.**; Sanches, I. D. . Assessing the Influence of Borders and Roads on the Segmentation of Rice Fields: A Case Study. In: XXIV GEOINFO, 2023, Sao Jose dos Campos.
https://http://www.geoinfo.info/geoinfo2023/proceedings2023_red.pdf
4. **Prudente, V. H. R.**; Silva, N. R. F. E.; Garcia, A. D, B.; Oldoni, L. V.; Xaud, H. A. M.; Xaud, M.; Adami, M.; Sanches, I. D. . Land Use and Land Cover classification using a SAR optical cloud computer approach in southern of Roraima. In: XX Brazilian Symposium on Remote Sensing, 2023, Florianopolis.
<https://proceedings.science/sbsr-2023/trabalhos/land-use-and-land-cover-classification-using-a-sar-optical-cloud-computer-approa?lang=pt-br>
5. **Prudente, V. H. R.**; Sanches, I. D.; Adami, M.; Skakun, S.; Oldoni, L. V.; Xaud, H. A. M.; Xaud, M.; Zhang, Y. *SAR data for Land Use Land Cover classification in a tropical region with frequent cloud cover*. In: IEEE Geoscience and Remote Sensing, 2020, Hawaii. IEEE Geoscience and Remote Sensing, 2020.
<https://doi.org/10.1109/IGARSS39084.2020.9323404>
6. Zhang, Y.; Skakun, S.; **Prudente, V. H. R.** *Detection of changes in the impervious surface using Sentinel-2 imagery*. In: IEEE Geoscience and Remote Sensing, 2020, Havai. IEEE Geoscience and Remote Sensing, 2020.
<https://doi.org/10.1109/IGARSS39084.2020.9323327>
7. **Prudente, V. H. R.**; Vieira, D. C.; Montibeller, B.; Oldoni, L. V.; Sanches, I. D.; Adami, M. . Use of SAR data to classify first and second harvest. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. . (In Portuguese).
<https://proceedings.science/sbsr-2019/papers/utilizacao-de-dados-sar-na-classificacao-de-especies-agricolas-de-primeira-e-segunda-safra>
8. Oldoni, L. V.; Sanches, I. D.; **Prudente, V. H. R.**; Vieira, D. C.; Gama, F. F. . Characterization of soybean, corn, and cotton dynamics based on Sentinel-1A polarimetric SAR data. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/caracterizacao->

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9. Oliveira, W. V.; Silva, N. R. F. E.; Vieira, D. C.; **Prudente, V. H. R.**; Moreira, M. A.; Sanches, I. D. Analysis of the expansion and dynamics of agriculture in central pivots in the microregion of Barreiras/BA from the interpretation of Landsat-8/OLI images. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/analise-da-expansao-e-dinamica-da-agricultura-em-pivos-centrais-na-microrregiao-de-barreiras-ba-a-partir-da-interpretaca>
10. Oldoni, L. V.; **Prudente, V. H. R.**; Vieira, D. C.; Sanches, I. D. . Mapping of agricultural crops using Sentinel-1A polarimetric multitemporal SAR data. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/mapeamento-de-culturas-agricolas-utilizando-dados-multitemporal-sar-polarimetricos-do-sentinel-1a->
11. Vieira, D. C.; **Prudente, V. H. R.**; Silva, N. R. F. E.; Oliveira, W. V.; Oldoni, L. V.; Adami, M.; Becker, W. R.; Korting, T. S.; Sanches, I. D. . Identification of annual cycle agricultural areas in the state of Paraná from EVI2 and NDVI time metrics using the google earth engine. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/identificacao-de-areas-agricolas-de-ciclo-anual-no-estado-do-parana-a-partir-de-metricas-temporais-de-evi2-e-ndvi-utiliz>
12. Caon, I. L.; Becker, W. R.; Ganascini, D.; Cattani, C. E. V.; Mendes, I. S.; **Prudente, V. H. R.**; Oldoni, L. V.; Antunes, J. F. G.; Mercante, E. . Comparison between rf and Maxver classifiers, for land use and coverage classification, in different time densities. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/comparativo-entre-os-classificadores-rf-e-maxver--para-classificacao-de-uso-e-cobertura-da-terra--em-diferentes-densidad?lang=en>
13. **Prudente, V. H. R.**; Vieira, D. C.; Silva, N. R. F. E.; Oliveira, W. V.; Oldoni, L. V.; Adami, M.; Sanches, I. D.; Identification of areas suitable for the installation of cereal collection storage units in the state of Rio Grande do Sul. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/identificacao-de-areas-aptas-a-instalacao-de-unidades-armazenadoras-coletoras-de-cereais-no-estado-do-rio-grande-do-sul->
14. Becker, W. R.; Caon, I. L.; Cattani, C. E. V.; Mercante, E.; Johann, J. A.; Ganascini, D.; **Prudente, V. H. R.**; Median and standard deviation of NDVI spectrum-temporal profile as rating parameters. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/mediana-e-desvio-padrão-do-perfil-espectro-temporal-de-ndvi-como-parametros-de-classificacao>
15. Silva, N. R. F. E.; Oliveira, W. V.; Vieira, D. C.; **Prudente, V. H. R.**; Moraes, E. C. . Characterization of environmental fragility of the Gi8/PE water basin through multi-criteria analysis. In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/caracterizacao-da-fragilidade-ambiental-da-bacia-hidrografica-gi8-pe-por-meio-de-analise-multicriterio>
16. **Prudente, V. H. R.**; Dutra, A. C.; Vieira, D. C.; Silva, N. R. F. E.; Moraes, E. C.; Shimabukuro, Y. E.; Sanches, I. D. Influence of the calibration factor between plates in the study of vegetation. In: XIX Brazilian Symposium on Remote Sensing, 2019,

- Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/influencia-do-fator-de-calibracao-entre-placas-no-estudo-da-vegetacao>
17. Dutra, A. C.; Prudente, V. H. R.; Vieira, D. C.; Silva, N. R. F. E.; Silva Junior, C. H. L.; Moraes, E. C.; Shimabukuro, Y. E.; Sanches, I. D. . Reflectance factor of different beach almond vegetation leaves (T. catappa sp). In: XIX Brazilian Symposium on Remote Sensing, 2019, Santos. (In Portuguese). <https://proceedings.science/sbsr-2019/papers/fator-de-reflectancia-de-diferentes-folhas-de-vegetacao-de-amendoeira-da-praia--t-catappa-sp-?lang=en>
 18. **Prudente, V. H. R.**; Mercante, E; Oldoni, L. V.; Cattani, C. E. V.; Silva, B. B. . Comparison between Leaf Area Index and Vegetation Index obtained by terrestrial remote sensing. In: XVII Selper International Symposium, 2016, Puerto Iguazú - Argentina. (In Portuguese). https://www.researchgate.net/publication/315664437_COMPARACAO_ENTRE_O_I_NDICE_DE_AREA_FOLIAR_E_INDICES_DE_VEGETACAO_OBTIDOS_POR_S_ENSORIAMENTO_REMOTO_TERRESTRE
 19. Becker, W R; **Prudente, V H R**; Johann, J A; Richetti, J; Mercante, E: Obtaining spatial and temporal data of crops in the state of Paraná. In: XVIII Brazilian Symposium on Remote Sensing, 2015, João Pessoa. (In Portuguese). <http://www.dsr.inpe.br/sbsr2015/files/p0650.pdf>

Peer review for the following journals

- Remote Sensing of Environmental, International Society for Photogrammetry and Remote Sensing (ISPRS), International Journal of Applied Earth Observation and Geoinformation, Remote Sensing Applications: Society and Environment, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, International Journal of Remote Sensing, AIMS Agriculture and Food, Sensors, Remote Sensing, Rural Science, Brazilian Journal of Cartography, Geocarto International, Agricultural and Forest Meteorology, Online Geoenvironmental, Computers and Electronics in Agriculture, Heliyon, International Journal of Digital Earth

Grant Reviewer

- NASA

Funding

Current

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| 2025-2027 | CNPq (BRL 249,937.95). Sinergia: Remote Sensing and Artificial Intelligence for Mapping Energy Crops in the Brazilian Semi-Arid Region. January 2025 to 2027. PI: A. T. Sales. Collaborators: V. H. R. Prudente , E. Mercante, M. M. Correa, H. S. Felipetto, M. Prior, M. E. D. Chaves, A. C. D. Antonino, J. F. Gurgel, A. C. Bezerra, D. T. M. Souza, A. P. Coutinho, M. Chaves, M. Prior, A. Alves |
| 2021-2024 | NASA (\$448,693). Land-Cover and Land-Use Change (LCLUC) Program. January 2021 to 2024. PI: M. Jain. Collaborators: V. Krishna, A. Lerner. Postdoc: V. Prudente. |

Past

- 2019- **CAPES-Print (US\$ 23,662.00).** Institutional Program for Internationalization.
2020 **SENSING - Satellites for ENvironmental Solutions Informing Nations Globally.** October/2019 to September/2020. Ph.D Candidate: **V. Prudente.** Brazilian advisors: I. Sanches, M. Adami (INPE). Foreign Advisor: S. Skakun (UMD)
- 2018- **CNPq (BRL 10,638.00).** Research Grant, CNPq Bench Fee. Ph.D Candidate: **V.**
2021 **Prudente.** Advisors: I. Sanches, M. Adami (INPE).

Teaching/Lectures and Advising Experience

- 2024 Co-advising Heithor Alexandre de Araujo Queiroz at the National Institute for Space Research (INPE/Brazil). Thesis: Advancing fruit crop mapping using remote sensing.
- 2023-2025 Co-advising Andre Dalla Bernardina Garcia at the National Institute for Space Research (INPE/Brazil). Thesis: Mapping of irrigated rice in Santa Catarina based on optical and radar images of the sentinel constellation.
- 2023 Talk/poster at the NASA LCLUC Science Team Meeting. Poster: Policy, Market, and Climate Change Impacts on Maize Production in Mexico.
- 2024 Poster at the NASA LCLUC Science Team Meeting. Poster: Policy, Market, and Climate Change Impacts on Maize Production in Mexico.
- 2019 Speaker at the International Workshop on Earth Observations for Agricultural Monitoring. Lecture: SAR Polarimetric and Interferometric data for Crop Classification. New Delhi, India
- 2018 Instructor for the “*Agriculture Remote Sensing*” module, at the **XX Course on the school use of Remote Sensing in the study of the Environment**
- 2017 Undergraduate Senior Thesis Advisor for agricultural engineering course entitle ***Correlation between leaf area, chlorophyll and NDVI indices with the phenological phases of soybean and common bean crops*** (In Portuguese) for the undergraduate student: Elvis Roberto Picinato Junior
- 2017 Undergraduate Senior Thesis Advisor for agricultural engineering course entitled ***Comparison between leaf area indices and NDVI of bean and soybean crops obtained through terrestrial sensors*** (In Portuguese) for the undergraduate student: Fayllon Ricardo Furquim Garcia Rodrigues

Committee Member

- 2022 Committee member: Henrique dos Santos Felippeto, Ph.D. Agricultural Engineering, Western Paraná State University – Brazil.,
Title: ***Multispectral Images from a UAV (Unmanned Aerial Vehicle) in wheat yield estimation*** (In Portuguese)
- 2022 Committee member: Carlos Eduardo Vizzotto Cattani, Ph.D. Agricultural Engineering, Western Paraná State University – Brazil.,
Title: ***Gross primary productivity in areas with different types of land use and coverage*** (In Portuguese)
- 2023 Committee member: Newmar Wegner, Ph.D. Agricultural Engineering, Western Paraná State University – Brazil.,
Title: ***Use of geographical data and forecast automated with Neural Networks in agriculture*** (In Portuguese)

- 2023 Committee member: Alex Paludo, Ph.D. Agricultural Engineering, Western Paraná State University – Brazil.,
Title: ***Geospatial analysis of the storage capacity units in relation to agricultural production*** (In Portuguese)
- 2023 Committee member: Isabella Alves da Cunha, Master in Agricultural Engineering (Qualifying Examination), University of Campinas – Brazil.,
Title: ***Using SAR Images to Predict Soybean Yield*** (In Portuguese)
- 2024 Committee member: Samuel Kuhl, Master. Agricultural Engineering, Western Paraná State University – Brazil.,
Title: ***Variable Selection for Deforestation Classification Optimization on the Google Earth Engine Platform*** (In Portuguese)
- 2024 Committee member: Isabella Alves da Cunha, Master in Agricultural Engineering, University of Campinas – Brazil.,
Title: ***Using SAR Images to Predict Soybean Yield*** (In Portuguese)
- 2025 Committee member: Andre Dalla Bernardina Garcia, Ph.D. Remote Sensing, National Institute for Space Research – Brazil.
Title: ***Utilizing Artificial Intelligence and SAR-Optical Data to Mapping Irrigated Rice Cultivation in Santa Catarina, Brazil.***

Ph.D. – Academic History - Courses

Physical Principles of Remote Sensing; Introduction to Remote Sensors; Introduction to Geoprocessing; Imaging Radar: Principles and Applications; Targets Spectral Behavior; Agricultural Remote Sensing; Digital Image Processing of Remote Sensing; Advanced Topics in Image Processing; Spatial Analysis; Hyperspectral Remote Sensing

Certifications (courses and training)

- 2016 Application of Satellite Remote Sensing to Support Water Resources Management.
ARSET-NASA, Brazil.
- 2017 Echoes in space - Introduction to Radar Remote Sensing. EO-College (Online)
- 2018 TAT-6: Integration of Radar and Optical Remote Sensing in Studying LCLUC.
European Space Agency, ESA-ESRIN, Croatia.
- 2022 Basic Principles of Radar Backscatter - EO-College (Online)

Languages

Portuguese: Native, Spanish: Proficient, English: Proficient

Referees

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Michigan (UofM)
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July 2025

Victor Hugo Rohden Prudente, Ph.D.