

# JOÃO PEDRO BAZZO VIEIRA

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C.V. last updated in September 2023

# EDUCATION

Ph.D. in Civil & Mineral Engineering 🗓 Sept. 2023 - 2027 (expected)  
**University of Toronto**

## Incoming Graduate student Advisor: Prof. Marianne Hatzopoulou

M.Sc. in Environmental Engineering 📅 2020  
Federal University of Paraná

**Title:** "Spatiotemporal vehicle emissions inventory model: A case study in Curitiba-PR"[\[Link\]](#)[\[In portuguese\]](#)  
**Advisor:** Prof. Marcelo Rizzo Errera **Co-Advisor:** Luiz Carlos Daemme

B.Sc. in Environmental Engineering 2016  
**Federal University of Parana**

**Title:** "Flow rates regionalization using RBF Neural Artificial Networks" [[Link](#)][*In portuguese*]  
**Advisor:** Prof. Ricardo Carvalho de Almeida

Exchange Program in Environmental Engineering 🗓 2014  
University of Waterloo

## Fellowship Science Without Borders Grant

# EXPERIENCE

## Research Assistant

Institute for Applied Economic Research (IPEA)

 Sept 2019 – June 2023 (3 yrs 10 mos)

📍 Brasília, Brazil

- Development of R packages to process GTFS in a high spatiotemporal resolution (`gtfs2gps` package) and to estimates tailpipe emissions from public transportation (`gtfs2emis` package);
  - Research on multiple topics of urban mobility in Brazil (e.g. trends and inequalities of urban mobility in Brazil; the impact of COVID-19 in the air travel demand and emissions; racial and income inequalities in access to health; urban form and sustainable mobility; time geography in the context of public transport networks)
  - Member of **Access to Opportunity** project, which aims to calculate people's access to jobs, health, and education services by different transport modes for Brazil's largest cities;
  - International comparison of urban buses emissions based on GTFS data [*In progress*].

## Research Coordinator

Cicloiguacu Cyclist Association

 Jun 2016 – Jun 2019 (3 yrs 1 mo)

📍 Curitiba, Brazil

- NGO aims to increase and improve bicycle use as a mode of transportation in Curitiba
  - Coordination of Curitiba's cyclist profile 2017, an initiative of Metropolitan Observatory UFRJ; Transporte Ativo and LABMOB
  - Participation in vehicle counts projects, seminars about bicycles in the urban environment, spatial data analysis on cyclist injuries and deaths, with partnership with local universities

## Intern

### Envex Consulting

📅 Feb 2015 – Mai 2016 (1 yrs 4 mo)

📍 Curitiba, Brazil

- Air quality, noise pollution, hydrology, and environmental impact assessment projects
  - Development of R scripts to process and visualize data on air quality and noise monitoring projects
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## Research intern

### University of Waterloo | Climatology Lab

📅 Set – Dec 2014 (4 mos)

📍 Waterloo, Canada

- Research in a project entitled "The study of the relationship between ocean temperature and jet streams displacement in scenarios of climate change", with the supervision of Prof. Christopher Fletcher;
  - Programming using R and Linux (Bash Shell), as part of the Science Without Borders project grant.
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## Intern

### Public Prosecutors Office

📅 Nov 2011 – Ago 2013 (1 yrs 10 mo)

📍 Curitiba, Brazil

- Assistance on processes related to municipal solid waste management, atmospheric emissions, environment licensing, and water resources;
  - Development of report on composting and municipal solid waste management
  - Technical analysis on Environment Impact Studies, Solid waste management plans, and other projects related to environmental management of cities and industries
  - Inspection of industrial and environmental damaged areas; Studies involving environmental law.
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## Junior Enterprise

### Ciclus Consulting – Federal University of Parana

📅 Mar 2010 - Mar 2013 (2 yrs 11 mo)

📍 Curitiba, Brazil

- Greenhouse gas inventory project; Entrepreneurship and project management training;
  - Supervision of project consultants responsible for: i) Meet the project deadline and budget; ii) Follow methodology for project management.
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## PUBLICATIONS

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### Work in progress

- An international bottom-up inventory of public transport emissions
  - A methodology for spatiotemporal vehicular emissions inventories using Origin-Destination data
  - The profile of active mobility in Brazil
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### Articles

- Vieira, J. P., Pereira, R. H. M., Andrade, P. R. (2023, May 05). Estimating public transport emissions from General Transit Feed Specification data. Journal of Transportation Research Part D: Transport and Environment. [\[Link\]](#)
  - Vieira, J. P., Vieira Braga, C. K., Pereira, R. H. M. (2022). The impact of COVID-19 on air passenger demand and CO2 emissions in Brazil. Journal of Energy Policy, 164, 112906. [\[Link\]](#)
  - Pereira, R. H. M., Andrade, P. R., Vieira, J. P. B. (2022). Exploring the time geography of public transport networks with the gtfs2gps package. Journal of Geographical Systems. [\[Link\]](#)
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### Pre-print

- Tomasiello, D. B., Pereira, R. H. M., Vieira, J. P., Parga, J. P. F. A., Servo, L. M. S. (2022, November 10). Racial and income inequalities in access to health in Brazilian cities. [\[Link\]](#)

## Working papers and reports

- Tomasiello, D.B., Vieira, J.P., Parga, J.P., Servo, L.M, Pereira, R. H. M. (2023). Racial and income inequalities in access to health in Brazilian cities. Working Paper 2832. Ipea - Institute for Applied Economic Research. [[Link](#)][In portuguese]
- Pereira, R. H. M., Herszenhut, D., Braga, C. K. V., Vieira, J.P., Oliveira, J. L. A. O., Parga, J.P., Saraiva, M., Silva, L.P., Tomasiello, D.B., Warwar, L. (2022) Spatial distribution of sociodemographic characteristics and public services in the 20th major cities of Brazil. Working Paper 2772. Ipea - Institute for Applied Economic Research. [[Link](#)][In portuguese]
- Pereira, R. H. M., Parga, J. P., Saraiva, M., Vieira, J. P., Tomasiello, D., Silva, L. P., Nadalin, V. G., Barbosa, R. J. (2022). TD 2802: Urban form and sustainable mobility: evidences from Brazilian cities. [[Link](#)][In portuguese]
- Pereira H.M.R., Warwar L., Parga J., Vieira J.P.B., Braga C.K., Herszenhut D. and Saraiva M. (2021). TD 2673: Trends and inequalities of urban mobility in Brazil I: the use of public and individual transport. [[Link](#)][In portuguese]
- Miranda, A.C. and Vieira J.P.B. (2020).The use of bicycles in the context of urban mobility. p.335 In: Urban mobility: a multidisciplinary approach. Ed. by Cristina Araújo Lima. Curitiba: UFPR. ISBN: 978-65-86233-02-5 [In portuguese]
- Belloto, J.C. A., Nakamori, S. and Vieira, J.P.B.(2020). Public institutions and traffic sources: practices to encourage sustainable mobility at UFPR and CELEPAR. In: Brazilian public management: innovation and network sustainability. Ed. by Villac, T. v. 1, p. 203-221 [In portuguese]
- Moreira, H.J.; Vieira, J.P.B.; Dittert, L.F.; Miranda, A.C.M.; Reck,Y.B. (2020). Temporary infrastructure for active mobility: Cycle mobility solutions to adapt the streets in the fight against the pandemic. UCB & Cicloiguaçu. Curitiba. [[Link](#)][In portuguese]

## Congress Articles

- Vieira, J. P. B., Errera, M. R., Daemme, L. C. (2019, October 1). Air Pollutants Modeling using Bottom-up Vehicular Emissions Inventory. Zenodo. <https://doi.org/10.5281/zenodo.7314409> [[Link](#)]
- Vieira, J. P. B., Almeida, R. (2016, October 22). Flow regionalization using Neural Artificial Networks RBF. Zenodo. <https://doi.org/10.5281/zenodo.7314385> [[Link](#)] [In portuguese]
- Gasparovic, C. L. M.; Ostroski, A.; Vieira, J. P. B.; Errera, M. R. . Elementary Constructual Design of a carbon capture systems based on carbonation over fly ashes.. In: Constructual Law Second Law Conference 2019 CLC 2019, 2019, Porto Alegre. Proceedings of Constructual Law Second Law Conference - CLC - 2019. Porto Alegre: Unisinos Porto (Brazil), 2019. v. 1. p. 184-187

## R packages

- Vieira, J.P.B.; Pereira, R.H.M.;Andrade, P.R.(2022) gtfs2emis: Generating estimates of public transport emissions from GTFS data. GitHub [[Link](#)]. [Autor, Mantainer]
- Espinosa, S.I.; Vieira, J.P.B. (2021). vein: Vehicular Emissions Inventories. Version 0.9.4. [[Link](#)]. [Contributor]
- Pereira, R.H.M.; Andrade, P.R.; Vieira, J.P.B. (2019) gtfs2gps: Converting GTFS data to GPS format. Zenodo [[Link](#)].[Autor]
- Herszenhut, D.; Pereira, R. H. M., Andrade, P. R., Vieira, J.P.B. (2022, May). gtfstools: General Transit Feed Specification (GTFS) Editing and Analysing Tools (Version v1.1.0). Zenodo. [[Link](#)].[Autor]

## Final Project Undergraduate referee (selected)

- Student Isadora Bergami. "Prediction of Particulate Matter in urban environment using random forest" (2021). Undergraduate program of Environmental Engineering UFPR [In portuguese]

## AWARDS & GRANTS

- 2023 – Dr. Mazen Hassounah Graduate Scholarship in Mass Events Transportation and Crowd Management
- 2023 – project gtfs2emis – International Geospatial Innovation Awards – Highly Commended [[Link](#)]
- 2022 – project gtfs2emis – International Transport Forum (ITF) Decarbonising Transport Award – finalist [[Link](#)]
- 2021 – "Enjoy Science UFPR" – Award due to master thesis excellence
- 2017-2019 – CAPES Studentship for Master Degree at Federal University of Parana (UFPR)
- 2013-2014 – Exchange program at University of Waterloo (Canada), Science Without Border program