



Carlos Mendez

Academic Positions

- 2018–Present **Associate Professor**, *Graduate School of International Development*, Nagoya University, Japan.
- 2019–Present **Founding Director**, *Quantitative Regional and Computational Science Network*.
- 2015–2018 **Lecturer**, *Faculty of Arts and Science*, Kyushu University, Japan.

Education

- 2015 **Ph.D. in International Development**, *Nagoya University*, Japan.
- 2012 **M.A. in International Development**, *Nagoya University*, Japan.
- 2010 **Research Student in International Development**, *Nagoya University*, Japan.
- 2008 **B.A. in Commercial Engineering (Business-Economics)**, *Universidad Católica Boliviana*, Bolivia.
- 2007 **Visiting Student in Commercial Engineering (Business-Economics)**, *Pontificia Universidad Católica de Chile*, Chile.

Research and Teaching Fields

- Primary: Development Economics, Regional Economics
- Secondary: Applied Econometrics, Macroeconomics

Teaching Experience

Graduate Courses

- 2022–Present **Associate Professor**, *Regional Development*, Nagoya University.
- 2022–Present **Associate Professor**, *Applied Econometrics*, Nagoya University.
- 2022–Present **Associate Professor**, *Introduction to Statistics and Data Science*, Nagoya University.
- 2022–Present **Associate Professor**, *Introductory Macroeconomics*, Nagoya University.
- 2018–Present **Associate Professor**, *Seminar in Economic Development Policy and Management I and II*, Nagoya University.
- 2019–2022 **Associate Professor**, *Development Macroeconomics*, Nagoya University.
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- 2021–2022 **Associate Professor**, *Quantitative Economic Analysis*, Nagoya University.
- 2012–2014 **Teaching Assistant**, *Development Macroeconomics*, Nagoya University .
- 2012–2014 **Teaching Assistant**, *Development Microeconomics*, Nagoya University .
- 2013 **Teaching Assistant**, *Advanced Microeconomics I*, Nagoya University .
- 2013 **Workshop Instructor**, *Advanced Topics in Economic Growth and Productivity*, Nagoya University.
- 2013 **Workshop Instructor**, *Advanced Topics in Macroeconomics*, Nagoya University.
- Undergraduate Courses**
- 2016–2018 **Lecturer**, *Introduction to Economics*, Kyushu University.
- 2016–2018 **Lecturer**, *Kikan- General Education Seminar*, Kyushu University.
- 2017–2018 **Lecturer**, *Academic Presentations in English (FC-SP)*, Kyushu University.
- 2016–2017 **Lecturer**, *Global Poverty and Development*, Kyushu University.
- 2016–2017 **Lecturer**, *Interdisciplinary Collaborative Learning of Social Issues*, Kyushu University.
- 2017–2017 **Lecturer**, *Introduction to Data Analysis and Visualization (SALC)*, Kyushu University.
- 2015–2017 **Lecturer**, *Economics is Everywhere (SALC)*, Kyushu University.
- 2008 **Invited Lecturer**, *Microeconomics I*, Universidad Católica Boliviana.

Other Experience

- 2012–2015 **Research Assistant**, *Globalization and Development Research Project*, JSPS Class-A International Joint Research Project lead by Prof. Shigeru Otsubo, Nagoya University.
- 2008–2009 **Local Consultant**, *Japanese International Cooperation Agency (JICA) and OP-MAC corporation*, Bolivia.
- 2007–2008 **Junior Consultant**, *The World Bank and the Danish International Development Agency (DANIDA)*, Bolivia.
- 2007–2008 **Junior Consultant**, *Pro-Mujer Microcredit International*, Bolivia.
- 2007 **Intern**, *FIE Microcredit*, Bolivia.
- 2006 **Junior Consultant**, *Pro-Mujer Microcredit*, Bolivia.

Awards

- 2023 **Top Cited Article 2021-2022**, *Regional Science Policy and Practice*, Regional convergence and spatial dependence across subnational regions of ASEAN: Evidence from satellite nighttime light data.
- 2023 **Top Cited Article 2021-2022**, *Review of Development Economics*, Disparities in regional productivity, capital accumulation, and efficiency across Indonesia: A club convergence approach.

- 2022 **Top Cited Article 2020-2021**, Regional Science Policy and Practice, Regional convergence, spatial scale, and spatial dependence: Evidence from homicides and personal injuries in Colombia 2010-2018.
- 2022 **Top Cited Article 2020-2021**, Review of Development Economics, Disparities in regional productivity, capital accumulation, and efficiency across Indonesia: A club convergence approach.
- 2021 **Encouraging Award**, Japan Section of the Regional Science Association International.
- 2017 **Emerging Scholar Award**, Interdisciplinary Social Sciences Research Network.
- 2013 **Outstanding Research Assistantship**, Nagoya University.
- 2012–2015 **Doctoral Studies Scholarship**, Japanese Government MEXT.
- 2010–2012 **Master Studies Scholarship**, Japanese Government MEXT.
- 2009–2010 **Research Student Scholarship**, Japanese Government MEXT.
- 2008 **Medal of Academic Excellence**, *Highest GPA (92/100) in the Commercial Engineering Major*, Universidad Católica Boliviana.
- 2008 **University Valedictorian**, Universidad Católica Boliviana.
- 2007 **Bolivian Representative Fellowship**, Pontificia Universidad Católica de Chile.
- 2005–2007 **Academic Excellence Fellowship**, *Best Student of the Commercial Engineering Major*, Universidad Católica Boliviana.
- 2003 **New Millennium Leader**, Latin American Circle in Oratory.
- 2003 **Diploma of Academic Excellence**, *Best Student of High School*, Instituto Salesiano Domingo Savio.

Research Grants

- 2023–Present **Integrating Satellite Images with Socioeconomic Data for Monitoring Sustainable Development**, Strategic Proposal for Fusion Research, ISEE, Nagoya University.
Principal Investigator
- 2024–2027 **Measuring and Modeling Local Economic Development using New Satellite Data and Spatial Econometrics**, Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research (C) 24K04884.
Principal Investigator
- 2023–2026 **Spatial Econometric Analysis of Regional Economies and Decentralization in Indonesia Based on Legal Mapping Method and Satellite Nighttime Light Data**, Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research (B) 23H03617.
Co-investigator
- 2019–2023 **Testing for Distributional Divergence in the Pillars of Global Sustainable Development: Integrating the Insights from a New Hierarchical Clustering Algorithm**, Japan Society for the Promotion of Science, Grant-in-Aid for Early-Career Scientists 19K13669.
Principal Investigator

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2018-2019 **Designing Integrated Industrial Policies for Pro-Poor Growth under Globalization: Promoting Surviving Industries in Developing Countries in Asia and Africa with New Public-Private Partnership**, Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research (A) 15H02620.
Co-investigator

Computer skills

Programming: Python, R, Stata, Matlab, Julia, JavaScript, Gauss, L^AT_EX

User: QGIS, GeoDA, Maple, Mathematica, EViews, SPSS, MINITAB, GTAP, ADEPT

Professional Activities

Spatial Econometrics Association (SEA)

Japan Society for International Development (JASID)

Japan Section of the Regional Science Association International (JSRSAI)

Referee: Progress in Disaster Science, Spatial Economic Analysis, Regional Science Policy and Practice, REGION, Cuadernos de Investigación Económica Boliviana, Sustainability, GeoJournal, Asia-Pacific Journal of Regional Science, Letters in Spatial and Resource Sciences, Economic Change and Restructuring, Journal of Economic Structures, Regional Studies, Regional Science, Essays on Economic Policy, Forum of International Development Studies, Economics Bulletin.

Publications and Research

Peer-reviewed Articles

- 2025 Mapping the dimensions of poverty through big data, socioeconomic surveys and machine learning in Cambodia, *Social Indicators Research*. (with Theara Khoun, Ate Poortinga, Nyein Soe Thwal, Iván González de Alba, and Andrea McMahon)
- 2025 Bayesian average of classical estimates for panel data: Can the puzzle of the shape of the regional Kuznets curve be solved?, *Empirical Economics*. (with Andres Ramirez-Hassan and Estephania Rueda-Ramírez)
- 2025 On the political and socioeconomic geography of violence: Spatial heterogeneity and scale effects in Brazil, *Spatial Economic Analysis*. (with Mehak Sachdeva)
- 2025 Predicting subnational GDP in Vietnam with remote sensing data: A machine learning approach, *Letters in Spatial and Resource Sciences*. (with Hussein Suleiman and Minh-Thu Thi Nguyen)
- 2024 Harmonized luminosity and economic activity across provinces in China: Cross-sectional differences, regional time series, and inequality dynamics, *Applied Economics*. (with Linda Glawe)
- 2024 Exploring economic activity from outer space: A Python notebook for processing and analyzing satellite nighttime lights, *Region*. (with Ayush Patnaik)
- 2024 Can higher-quality nighttime lights predict sectoral GDP across subnational regions? Urban and rural luminosity across provinces in Türkiye, *Letters in Spatial and Resource Sciences*. (with Yilin Chen and Ugur Ursavas)

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- 2023 Regional unemployment dynamics in Indonesia: Serial persistence, spatial dependence, and common factors, *Letters in Spatial and Resource Sciences*. (with Tifani Siregar)
- 2023 Regional Okun's law and endogeneity: Evidence from the Indonesian districts, *Applied Economics Letters*. (with Harry Aginta and Masakazu Someya)
- 2023 Convergence clubs and spatial structural change in the European Union, *Structural Change and Economic Dynamics*. (with Eleonora Cutrini)
- 2023 Measuring and understanding regional inequality through the lens of the Indonesian experience: A book review of regional inequality and development by Takahiro Akita and Mitsuhiro Kataoka, *Asia-Pacific Journal of Regional Science*
- 2022 Regional income convergence and conditioning factors in Turkey: Revisiting the role of spatial dependence and neighbor effects, *Annals of Regional Science*. (with Ugur Ursavas)
- 2022 Schooling ain't learning in Europe: A club convergence perspective, *Comparative Economic Studies*. (with Linda Glawe)
- 2022 Social and economic convergence across districts in Indonesia: A spatial econometric approach, *Bulletin of Indonesian Economic Studies*. (with Cani Miranti)
- 2022 Regional convergence and spatial dependence in Thailand: Global and local assessments, *Journal of the Asia Pacific Economy*. (with Katikar Tipayalai)
- 2022 Economic and social disparities across subnational regions of South America: A spatial convergence approach, *Comparative Economic Studies*. (with Felipe Santos)
- 2021 Regional income disparities, distributional convergence, and spatial effects: Evidence from Indonesian regions 2010-2017, *GeoJournal*. (with Felipe Santos and Anang Gunawan)
- 2021 Regional income disparities and convergence clubs in Indonesia: New district-level evidence, *Journal of the Asia Pacific Economy*. (with Harry Aginta and Anang Gunawan)
- 2021 Sectoral productivity convergence, input-output structure and network communities in Japan, *Structural Change and Economic Dynamics*. (with Alvaro Dominguez and Felipe Santos)
- 2021 Provincial income convergence clubs in Indonesia: Identification and conditioning factors, *Growth and Change*. (with Anang Gunawan and Shigeru Otsubo)
- 2021 Human capital constraints, spatial dependence, and regionalization in Bolivia: A spatial clustering approach, *Economia*. (with Erick Gonzales)
- 2021 Regional convergence and spatial dependence across subnational regions of ASEAN: Evidence from satellite nighttime light data, *Regional Science Policy and Practice*. (with Felipe Santos)
- 2021 Disparities in regional productivity, capital accumulation, and efficiency across Indonesia: A club convergence approach, *Review of Development Economics*. (with Mitsuhiro Kataoka)

- 2021 Regional convergence, spatial scale, and spatial dependence: Evidence from homicides and personal injuries in Colombia 2010-2018, *Regional Science Policy and Practice* (with Felipe Santos)
- 2020 Regional efficiency convergence and efficiency clusters: Evidence from the provinces of Indonesia 1990-2010, *Asia-Pacific Journal of Regional Science*.
- 2020 Labor productivity, capital accumulation, and aggregate efficiency across countries: New evidence for an old debate, *Forum of International Development Studies*.
- 2019 Lack of global convergence and the formation of multiple welfare clubs across countries: An unsupervised machine learning approach, *Economies*.
- 2019 A comparison of TFP estimates via distribution dynamics: Evidence from light manufacturing firms in Brazil, *Empirical Economics Letters*. (with Erick Gonzales)
- 2019 Industrial productivity divergence and input-output network structures: Evidence from Japan 1973-2012, *Economies*. (with Alvaro Dominguez)
- 2018 Beta, sigma and distributional convergence in human development? Evidence from the metropolitan regions of Bolivia, *Latin American Journal of Economic Development*.
- 2018 On the distribution dynamics of human development: Evidence from the metropolitan regions of Bolivia, *Economics Bulletin*.
- 2018 Investment constraints and productivity cycles in Bolivia, *Conyuntural Economics*.
- 2017 Heterogeneous growth and regional (di)convergence in Bolivia: A distribution dynamics approach, *Coyuntural Economics*.
- 2015 The world productivity distribution: Convergence and divergence patterns in the postwar era, *Latin American Journal of Economic Development*.
- 2015 On the development gap between Latin America and East Asia: Welfare, efficiency, and misallocation, *Forum of International Development Studies*.

Books

- 2020 *Convergence Clubs in Labor Productivity and its Proximate Sources: Evidence from Developed and Developing Countries*. Springer
- 2015 *Essays on Aggregate Productivity, Structural Change, and Misallocation*. Lambert Academic Publishing

Book Chapters

- 2021 Regional Economic Growth Convergence and Spatial Growth Spillovers at Times of COVID-19 Pandemic in Indonesia. In Resosudarmo B. et al. (Ed.), *Regional Perspectives of Covid-19 in Indonesia*. IRSA Press
- 2021 Promoting Both Industrial Development and Regional Convergence: Towards a Regionally Inclusive Industrial Policy. In Otsubo S. and Otchia C. (Ed.), *Designing Integrated Industrial Policies*. Routledge
- 2015 Divergent and Unequal Development in Latin America: Causes and Policy Challenges. In Otsubo S. (Ed.), *Globalization and Development: In Search of a New Development Paradigm*. Routledge

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Reports

- 2008 Productive Investment Complementarity across Local and Regional Governments in Bolivia, Consultancy Report, The World Bank–DANIDA. (with Guillermo Gonzales)

Dissertations

- 2015 Essays on Aggregate Productivity, Structural Change and Resource Misallocation, *Doctoral Dissertation*, Nagoya University
- 2012 On the Determinants of Bolivia's Economic Growth: Productivity and Institutional Puzzles, *Master Dissertation*, Nagoya University
- 2008 The Relative Importance of the Industry Forces and Firm Resources on Performance: An Empirical Evaluation of the Biggest Firms in Bolivia, *Undergraduate Dissertation*, Universidad Católica Boliviana

Recent Presentations

- 2024 **Monitoring economic development from outer space**, *Invited speaker, Workshop of the Asian Development Bank Institute*, Tokyo, Japan.
- 2024 **The geography of development: Insights from outer space**, *Keynote speaker, 8th International Research Conference of Uva Wellassa University*, Virtual and On-site, Badulla, Sri Lanka.
- 2024 **Exploring economic activity from outer space: A Python notebook for processing and analyzing satellite nighttime lights**, *The 2024 Congress of the European Regional Science Association*, Virtual Conference, Portugal.
- 2024 **Nighttime lights and local economic activity: Evidence from developed and developing countries**, *The 2024 Congress of the European Regional Science Association*, Virtual Conference, Portugal.
- 2024 **On the geography of sustainable development: A view from outer space**, *Keynote speaker, Midyear International Conference, Universitas Jenderal Soedirman*, Virtual and Onsite, Purwokerto, Indonesia.
- 2024 **Introduction to quantitative data analysis for social science**, *Keynote speaker, Universitas Diponegoro, UNDIP Summer Course*, Virtual Summer Course, Indonesia.
- 2024 **Monitoring regional development in data-poor countries: Integrating satellite images, socioeconomic surveys, and machine learning**, *Consortium for Satellite Earth Observation*, Tokyo, Japan.
- 2023 **Mapping multidimensional poverty in Cambodia: Integrating big data, socioeconomic surveys, and machine learning**, *GSID-ISEE 2023 Research Workshop*, Nagoya, Japan.
- 2023 **Regional luminosity through the lens of the spatial Solow model: Evidence from Java, Indonesia**, *The 14th version of the Bolivian Conference on Development Economics*, Bolivian Catholic University, Bolivia.
- 2023 **Regional luminosity through the lens of the spatial Solow model: Evidence from Java, Indonesia**, *The 60th Annual Meeting of the Japan Section of the Regional Science Association International*, Nagoya, Japan.

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- 2023 **Regional Okun's law, endogeneity, and heterogeneous effects: District-level evidence from Indonesia**, *The 62nd Congress of the European Regional Science Association*, Virtual Conference, Spain.
- 2023 **Exploring economic activity from outer space: A Python notebook for processing and analyzing satellite nighttime lights**, *The 62nd Congress of the European Regional Science Association*, Virtual Conference, Spain.
- 2022 **Regional luminosity and economic activity in Java: What do the new satellite nighttime light data say?**, *The 59th Annual Meeting of the Japan Section of the Regional Science Association International*, Virtual Conference, Japan.
- 2022 **Regional income convergence and conditioning factors in Turkey: Revisiting the role of spatial dependence and neighbor effects**, *The 61st Congress of the European Regional Science Association*, Virtual Conference, Hungary.
- 2022 **Regional inequality clubs in the Philippines: A view from outer space**, *The 27th Conference of the Pacific Regional Science Conference Organisation (PRSCO)*, Virtual Conference, Japan.
- 2021 **Regional disparities and heterogeneous convergence in Indonesia: A multi-scale geographically weighted regression approach**, *XV World Conference of the Spatial Econometrics Association*, Virtual Conference, Japan.
- 2021 **Regional disparities and heterogeneous convergence in Indonesia: A multi-scale geographically weighted regression approach**, *The 13th World Congress of the Regional Science Association International*, Virtual Conference, Morocco.
- 2020 **Regional Convergence and Spatial Dependence across Subnational Regions of ASEAN: Evidence from Satellite Nighttime Light Data**, *The 57th Annual Meeting of the Japan Section of the Regional Science Association International*, Virtual Conference, Japan.
- 2020 **Regional Convergence and Spatial Dependence across Subnational Regions of ASEAN: Evidence from Satellite Nighttime Light Data**, *The 57th Annual Meeting of the Japan Section of the Regional Science Association International*, Virtual Conference, Japan.
- 2020 **National and Subnational Inequality in Africa: A Club Convergence View from Outer Space Motivation**, *The 31st Annual Conference of the Japan Society for International Development*, Virtual Conference, Japan.
- 2020 **Human Development Disparities and Convergence across Districts of Indonesia: A Spatial Econometric Approach**, *The Applied Regional Science Conference (ARSC) 34th Annual Meeting*, Virtual Conference, Japan.
- 2020 **Regional Income Disparities and Convergence Clubs in Indonesia: New District-Level Evidence**, *The 2020 Fall Meeting of the Japan Association of Applied Economics (JAAE)*, Virtual Conference, Japan.
- 2020 **Economic and Social Disparities across Subnational Regions of South America: A Spatial Convergence Approach**, *The 57th/2020 Annual Conference of the Japan Society of Social Science on Latin America*, Virtual Conference, Japan.

- 2020 **Regional Income Disparities, Distributional Convergence, and Spatial Effects: Evidence from Indonesian Regions 2010-2017**, *The 19th International Conference of the Japan Economic Policy Association*, Virtual Conference, Japan.
- 2020 **Productivity Differences and Convergence Clubs in Latin America**, *The 2020 Bolivian Conference of Development Economics*, Virtual Conference, Bolivia.
- 2019 **Disparities in Regional Productivity, Capital Accumulation, and Efficiency across Indonesia: A Convergence Clubs Approach**, *The 2019 Applied Regional Science Conference (ARSC)*, Saga, Japan.
- 2019 **Productivity Differences and Convergence Clubs in Latin America**, *The 2019 International Joint Conference of JAHSS and JASID*, Tokyo, Japan.
- 2019 **Input-Output Efficiency and Regional Convergence Clusters: Evidence from the Indonesian Provinces 1990-2010**, *The 56th Annual Meeting of the Japan Section of the Regional Science Association International*, Kurume, Japan.
- 2019 **Regional Efficiency Dispersion, Convergence, and Efficiency Clusters: Evidence from the Provinces of Indonesia 1990-2010**, *The 2019 Spring Conference of the Japanese Association of Applied Economics*, Nagoya, Japan.
- 2019 **Environmental Efficiency and Regional Convergence Clusters in Japan: A Nonparametric Density Approach**, *The 3rd International Conference on Economic Structures of the Pan Pacific Association of Input-Output Studies*, Osaka, Japan.