

QUICHIMBO MIGUITAMA FABIAN

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EDUCATION

- 2024- Present **Ph.D. candidate, Hydrogeology;** University of Florida, Florida-USA. Linking Surface Water and Groundwater Interaction to N₂O Dynamics in Karst Aquifers via Reactive Transport Modeling. Advisor: Ph.D. Seonkyoo (Sean) Yoon
- 2023 **M.Sc., Hydrology (major in ecohydrology).** University of Cuenca, Cuenca-Ecuador. *President of the cohort, period 2022/2023. Thesis: “*Transit time distributions on pan-tropical catchments guided by natural isotopes*”. Advisor: Prof. Christian Birkel.
- 2020 **B.Sc., Civil Engineer (accredited by ABET).** Escuela Superior Politécnica del Litoral ESPOL. Guayaquil-Ecu Feb 2020. Thesis: “*Prediseño de soluciones eco-ingenieriles para mitigar inundaciones en la parroquia Febres Cordero*”. Advisor: Ph.D. Mijail Areas.

PUBLICATIONS

- 2026 **Automated Spectral Deconvolution for Quantitative Dye Tracing, Quichimbo-Miguitama F,** Yoon S, Kramer J, Barry J.D, Alexander S. C., and Kang P. K; *Water Resources Research*. <https://doi.org/10.1029/2025WR042509>
- 2024 **Key controls on water transit times along a tropical precipitation gradient, Quichimbo-Miguitama F,** Pesántez J, Crespo P, Sánchez-Murillo R, Lim H, Munksgaard N, Duvert C, Yystavna N, Birkel C; *Journal of Hydrology*. <https://doi.org/10.1016/j.jhydrol.2024.132134>
- 2022 **Influence of Low-Impact Development in Flood Control: A Case Study of the Febres Cordero Stormwater System of Guayaquil (Ecuador), Quichimbo-Miguitama F,** Matamoros D, Jiménez L, Quichimbo-Miguitama P; *Sustainability*. <https://doi.org/10.3390/su14127109>.

PRESENTATIONS (oral and posters)

- [UF Water Institute-2026](#) (Poster) **Quichimbo-Miguitama F.** Yoon S, Kramer J, Barry J.D, Alexander S. C., Kang P. Automated Spectral Deconvolution for Quantitative Dye Tracing. (S2: AI/Machine Learning, Big Data, and Convergent Science for Water Systems). 10th Biennial UF Water Institute Symposium. Gainesville, FL.
- UF Water Institute-2026 (Oral talk) **Quichimbo-Miguitama F.** Yoon S, Kramer J, Barry J.D, Alexander S. C., Kang P. Automated Spectral Deconvolution for Quantitative Dye Tracing. (Block 2), Gainesville, FL.
- [AGWT-2026](#) (Oral Talk) **Quichimbo-Miguitama F.** Yoon S, Kramer J, Barry J.D, Alexander S. C., Kang P. Enhancing breakthrough curve analysis via automated curve fitting-based spectral deconvolution. American Ground Water Trust’s Florida Groundwater Conference. Orlando, FL.
- AGU-2025 (Oral talk) **Quichimbo-Miguitama F.** Yoon S, Kramer J, Barry J.D, Alexander S. C., Kang P. Enhancing breakthrough curve analysis via automated curve fitting-based spectral deconvolution. (H34H: Stable Isotopes and Other Tracers in the Critical Zone: Hydrological Processes, Chemical Weathering, and Hydrochronology II). New Orleans, LA.
- [WSCC-2023](#) (Oral Talk) **Quichimbo-Miguitama F.** Matamoros D, Jiménez L, Quichimbo-Miguitama P. Water Security and Climate Change conference. Influence of Low-Impact Development in Flood Control: A Case Study of the Febres Cordero stormwater System of Guayaquil. Theme 1: Water and Climate: Challenges, Opportunities, and Innovative Solutions. (T1-S1) Cuenca, Nov 2023. **Field travel awarded.*

- AGU-2023 (Poster) **Quichimbo-Miguitama F**, Pesántez J, Crespo P, Sánchez-Murillo R, Lim H, Munksgaard N, Duvert C, Ystavna N, Birkel C. Hydrogeomorphology influence on pan-tropical water transit times. H09: Online Poster Session for Hydrology 18. American Geophysical Union Fall Meeting, San Francisco.CA
- UTPL-2023 (Poster) **Quichimbo-Miguitama F**, Crespo P, Pesantez J, Birkel C. "Hydrogeomorphological influence on Pan-Tropical transit times". [Status Symposium Annual by San Francisco Scientific Station](#). Loja-Ecuador.
- ESPOL-2022 (Poster) **Quichimbo-Miguitama F**, Matamoros D, Jiménez L, Quichimbo-Miguitama P. Estrategias de desarrollo de bajo impacto y su influencia en el control de inundaciones costeras. [I jornada de jóvenes investigadores ESPOL](#). Guayaquil. Ecuador.
- EuroSciCon-2022 (Oral talk) **Quichimbo-Miguitama F**. Scientific Program. Even on Climate Change and Human Health Impacts. Keynote Session-Webinar: Low-Impact Development in Flood Control applied to Febres Cordero- Ecuador. Florida, USA. (Virtual Session)

TEACHING ASSISTANTSHIPS (T.A) AND RESEARCH ASSISTANTSHIPS (R.A.)

- SU- 2026 **Hydrogeology Field Camp**; T.A. University of Florida; (In-Person)
- SP-2026, [Yoon Research Group](#). (R.A.). Hydroquantitative Lab- Hydrogechemistry Lab, Williamson Hall
- FA, SU-2025 [Yoon Research Group](#). (R.A.). Hydroquantitative Lab, room 245, Williamson Hall
- SP- 2025 **Groundwater Geology, GLY 4822/5827**; T.A. University of Florida; (Online)
- FA-2024 **Earthquakes, Volcanoes & Other Hazards, GLY /1880**; T.A. University of Florida; (Online)

RESEARCH EXPERIENCE

- 2023-Present **UTPL-UCUENCA**. Project: Flooding Perceptions: Implications and Perspectives on Social, Environmental, and Economic Aspects Across Ecuador. Supervisor: Leticia Jimenez.
- 2021-2023 **iDRHICA**. Project: Pan-Tropical transit time modelling based on stable isotopes from Ecuador, Costa Rica, and Australian catchments. Supervisor: Christian Birkel.
- 2019-2020 **Centro de Agua y Desarrollo Sustentable CADS-ESPOL**. Project: Improving Flood Resilience on urban catchments. Supervisor: Mijail Arias.

PROFESSIONAL EXPERIENCE

- 2021-2022 **Junior Assistant on field**: Zoning degradation (550 ha) and assessing soil carbon stocks and hydrophysical properties into the Andean páramo ecosystem (Cañar-Ecuador).
- Jun. 2020 **Assistant engineer**: Mapping and soil classification in southern Ecuador páramo using remote sensing and machine learning (Random Forest) with QGIS and R-Studio.
- Feb/May.2019 **Engineering intern** at Cullen Grummitt & Roe (Posorja Multipurpose Terminal project-Ecuador), supporting construction QA/QC, site inspections, and technical reporting.
- Feb/Mar.2018 **Civil engineering inter** at CONSULSUA S.A., working on drafting, georeferencing, and GIS data management using AutoCAD and ArcGIS.

OUTREACH & COMMUNITY SERVICES

- Jan 2026 **Invited Speaker**, Scientist in Every Florida School Program. Presented science lessons to 5th-grade students on forms and transformation of energy.
- Feb 2025 **Invited Speaker**, Scientist in Every Florida School Program - led interactive lessons for K–12 students on matter, forces, and motion.
- 2022 **Invited collaborator** at LCOY-Quito (Table 7: Water Resources Management), contributing to the “Ecuadorian Youth Declaration against Climate Change” with policy recommendations submitted to COP27.
- Jan-Jul 2022 **Volunteer** with UNICEF/YOUNGO, supporting training in climate activism, environmental policy, communication strategies, and proposal development.
- Aug 2015 **Volunteer teacher** (ZUMAR-ESPOL) in Guayaquil, delivering science, math, and physics instruction for educational recovery initiatives.

HONOURS OR AWARDS

- Nov. 2025 **GSC Travel Grant Award**, Graduate Student Council – University of Florida. Travel support award for research-related activities.
- Oct. 2025 **LUECI Travel Grant Award**, Land Use and Environmental Change Institute – University of Florida. Travel support for research-related activities.
- Sep. 2025 **Water Institute Travel Award, UF Water Institute**. Support for students in sharing their research with broader scientific and professional communities.
- July. 2024 **Graduate Fellowship**. The University’s most prestigious graduate student award, awarded to outstanding incoming Ph.D. Selection reflects exceptional undergraduate achievement and strong interest in the candidate joining the Graduate Program.
- May. 2023 **Opportunity Funds Award**, Cohort 2024, EducationUSA/U.S. Department of State. Support for highly academically qualified students to cover expenses related to applying to and/or beginning studies at accredited U.S. higher education institutions. Sponsored by the U.S. Department of State, Bureau of Educational and Cultural Affairs
- Apr. 2021 **Hydrology Fellowship**, MSc, University of Cuenca (iDRHICA), Cuenca, Ecuador. Grant covering 80% of the total program cost.
- Oct. 2011 **English Access Micro scholarship**, “ACCESS”, U.S Embassy sponsor, Abraham Lincoln Center, Department of State EEUU, Cuenca-Ecu. Full grant awarded to learn English (2 years). Level B2-C1.

AFFILIATIONS

- 2023-Present **American Geophysical Union (AGU)**

2022-Present **European Geosciences Union (EGU)**
2024-Present **The Scientific Research Honor Society (Sigma XI)**
2025 **Geological Society of America (GSA).**