

JULIANA MEJIA SEPULVEDA

Email: julianamejia@arizona.edu
[Google Scholar](#); [ResearchGate](#); [LinkedIn](#)

EDUCATION

- 2023 – current Ph.D. Environmental Engineering, University of Arizona, USA
2019 – 2022 M.S Environmental Engineering, Universidad de Antioquia, Colombia
2013 – 2018 B. Eng. Environmental Engineering, Universidad de Antioquia, Colombia

PROFESSIONAL

- 2023 - current Graduate Research Assistant, Department of Chemical and Environmental Engineering, University of Arizona, USA.
2023 – 2023 Lecturer. College of Engineering. Tecnológico de Antioquia, Medellín, Colombia.
2021 – 2023 Data analyst. Air quality working group, Early Warning System of Medellin and the Aburra Valley (SIATA).
2019 – 2021 Research assistant. GIGA Laboratory in association with EAFIT University and MinCiencias. Project: “Development of surface modification methods in clay bricks for use in the mitigation of gaseous atmospheric pollutants through photocatalysis with TiO₂”, Engineering Faculty, University of Antioquia, Medellín, Colombia.
2019 – 2019 Research assistant. Giga Laboratory in association with Alcaldía de Girardota. Project: “Chemical, morphological and mineralogical analysis of PM₁₀ in the Municipality of Girardota”
2019 – 2019 Research assistant. GIGA Laboratory in association with SIATA. Project: “Chemical, morphological and mineralogical analysis of PM₁₀ in the Aburrá Valley”
2018 – 2019 Assistant analyst. Laboratory for Environmental Studies, Engineering Faculty, University of Antioquia, Medellín, Colombia.

FUNDING AND AWARDS

- 2025 Best oral presentation, CHEE Friday Seminar
Department of Chemical and Environmental Engineering, University of Arizona
- 2024 International Global Atmospheric Chemistry, Early Career Short Course- ICACGP- IGAC
- 2023 The University of Arizona, George and Dixie Shirley Graduate Scholarship
- 2019 Ministry of Science, Technology and Innovation, Young Research Funding Award
- 2013 EPM funding award for undergraduate studies

SCIENTIFIC PRODUCTION

a. Published peer-reviewed scientific articles.

Palacio, C., Álvarez, A., Mejía-Roldán, A. F., Urquijo, J. P., Arias, J., Vélez-Monsalve, L. C., **Mejía-Sepulveda, J.**, Saldarriaga-Molina, J., Correa-Ochoa, M. & Vargas, F. (2023). Photocatalytic Performance Evaluation of Flame Sprayed and Polymeric Suspensions Coatings from TiO₂ Nanoparticles. *Journal of Chemical Technology & Biotechnology*.

Palacio, C., Alvarez, A., Mejía-Roldán, A. F., Urquijo, J. P., Arias, J. A., Cardona, R. A., Velez-Monsalve Leidy C., **Mejía-Sepulveda, J.**, Saldarriaga-Molina, J., Correa-Ochoa, M. & Vargas, F. (2022). Influence of organic acids on the phases and physical characteristics of titanium dioxide synthesized by sol-gel for air depollution through heterogeneous photocatalysis. *Journal of Chemical Technology & Biotechnology*, 97(11), 2994-3000.

Correa-Ochoa, M., **Mejía-Sepulveda, J.**, Saldarriaga-Molina, J., Castro-Jiménez, C., & Aguiar-Gil, D. (2021). Evaluation of air pollution tolerance index and anticipated performance index of six plant species, in an urban tropical valley: Medellin, Colombia. *Environmental Science and Pollution Research*, 1-20.

b. Under review

Valencia, S., Marin, D.E., Gomez, D., Echavarria, V., **Mejía-Sepulveda, J.**, Husic, A., Sullivan, S., Hoyos, N., Villegas, J.C., Harrison, L., Green, J.K. Improvements and limitations of the new Climate Hazards center Infrared Precipitation with Stations (CHIRPS) dataset: Insights from multiple spatio-temporal scales in Colombia. *Atmospheric Research*, Under Review, 2025.

c. In preparation

Mejía-Sepulveda, J. and Sullivan, S. Heat domes precede aerosol extreme events in the U.S. Southwest (2025) [in preparation for *Nature Geoscience*]

d. Presentations

Mejía-Sepulveda, J., Sepulveda Araya, E.I., Bunn, P. & Sullivan, S. (2025). Caracterización de eventos extremos de aerosoles y sus implicaciones para la generación de energía fotovoltaica: Un caso de estudio en el suroeste de Estados Unidos. Congreso Colombiano y Conferencia Internacional de Calidad del Aire y Salud Pública (CASAP X), Oral.

Mejía-Sepulveda, J., Sepulveda Araya, E.I., Bunn, P. & Sullivan, S. (2024). Identification of extreme dust events over the Sonoran Desert using satellite and in-situ observations. American Geophysical Union (AGU24), Poster.

Mejía-Sepulveda, J., Sullivan, S., Bheemasetti, T., & Rahman, R. (2024). The influence of pH on immersion-mode ice-nucleating particles with implications for cloud-phase partitioning. International Global Atmospheric Chemistry (IGAC 2024), Poster.

Valencia, S., Marín, D.E., **Mejía-Sepúlveda, J.**, Vargas, J., Hoyos, N., Salazar, J.F., Villegas, J.C. (2022). Active fires during the COVID-19 lockdown period in the Llanos ecoregion, northern South America. *European Geosciences Union (EGU), Virtual*.

Mejía-Sepulveda J., Correa-Ochoa, M., Saldarriaga-Molina, J. (2021). Efectos de la cuarentena debida al COVID-19 en la profundidad óptica del aerosol (AOD) en el Valle de Aburrá, Colombia. Congreso Colombiano y Conferencia Internacional de Calidad de Aire y Salud Pública (CASAP VIII), Virtual.

Mejía-Sepulveda J., Correa-Ochoa, M., Saldarriaga-Molina, J. (2019). Evaluación del Índice de Rendimiento Esperado (API) de seis especies arbóreas para el desarrollo del arbolado urbano. Caso de estudio: Medellín Colombia. Expociencias México.

VOLUNTEERING ACTIVITIES

2025, iCACGP-IGAC 2025 ECR Online Conference

2024- Current, President of the Association for Chemical and Environmental Students (ACES), CHEE Department, University of Arizona

REFERENCES

Sylvia Sullivan
Ph.D. advisor
Assistant Professor
Chemical and Environmental Department, University of Arizona
sylvia@arizona.edu

Avelino Arellano
Associate Professor
Hydrology and Atmospheric Department, University of Arizona
afarellano@arizona.edu

Maximilien Desservetaz
Research Fellow
University of Wollongong
mdesserv@uow.edu.au