

Biographical Sketch

GILMARIE SANTOS-FIGUEROA

Current Status

PhD Candidate
Department of Chemistry, UPR-RP

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Education:

2004-2009	UPR-Río Piedras
2009	BS Chemistry UPR-Río Piedras
2009 – Present	PhD Student UPR-Río Piedras



Research Interests:

Study the incursions of African Dust particles and their relation with fungal spore's emissions at the Caribbean region to have a better understanding of their impact to climate and public health.

Research Experience:

2006-2009	UPR-RP Undergraduate Research, Organic aerosols, Mentor Dr. Olga L. Mayol
2009-Present	UPR-RP Graduate Research, Bioaerosols, Mentor Dr. Olga L. Mayol

Honors:

2009	Honor Student
2009-2011	Puerto Rico – Louis Stokes Alliance For Minority Participation Fellowship
2014-2016	Puerto Rico NASA Space Grant Fellowship
2016-Present	RISE Fellowship

Publications:

Santos-Figueroa, G., B. Bolaños, O. L. Mayol-Bracero, Fungal Spore Concentrations during African Dust Events in a tropical montane cloud forest, manuscript in preparation, to be submitted to Atmospheric Environment.

DeMott, P., Hill, T.C.J., McCluskey, C.S., Phrater, K.A., Collins, D.B., Sullivan, R.C., Ruppel, M.J., Mason, R.H., Irish, V.E., Lee, T., Hwang, C.Y., Rhee, T.S., Snider, J.R., McMeeking, G.R., Dhaniyala, S., Lewis, R.E., Wentzell, J. Abbatt, J., Lee, C., Sultana, C.M., Ault, A.P., Axson, J.L., Diaz-Martinez, M., Venero, I., **Santos-Figueroa, G.**, Stokes, M.D., Deane, G.B., Mayol-Bracero, O.L., Grassian, V.H., Bertram, T.H., Bertram, A.K., Moffet, B.F., and Franc,

G.D., Sea spray aerosol as a unique source of ice nucleating particles, DOI 10.1073, PNAS, 2015.

Gioda, A., G.J. Reyes-Rodriguez, **G. Santos-Figueroa**, J.L. Collett, S. Decesari, M.C.K.V. Ramos, H.J.C. Bezera Netto, F.R. de Aquino Neto, O.L. Mayol-Bracero, Speciation of water-soluble inorganic, organic, and total nitrogen in a background marine environment: Cloud water, rain water, and aerosol particles, *Journal of Geophysical Research*, Vol. 116, 2011.

Gioda, A., O.L. Mayol-Bracero, G.J.Reyes-Rodriguez, **G. Santos-Figueroa**, J.L. Collett, Water-soluble organic and nitrogen levels in cloud and rain water in a background marine environment under influence of different air masses, *Journal of Atmospheric Chemistry*, Vol. 61, 85-99, 2008.

Presentations:

Santos-Figueroa G., F. Morales-García, O.L. Mayol-Bracero, Dust Concentrations and Composition During African Dust Incursions in the Caribbean Region, American Geophysical Union, Fall Meet. Suppl., Abstract A21E-0124, December 2016.

Santos-Figueroa G., B. Bolaños-Rosero, S.M. Waters, J.K. Hatt, K. Konstantinidis, and O.L. Mayol-Bracero, Fungal Content in aerosols at the Caribbean Region During African Dust Incursions, International Global Atmospheric Chemistry (IGAC) Project 2016 Science Conference, Breckenridge, CO, USA, September 2016.

Santos-Figueroa G., B. Bolaños-Rosero, O.L. Mayol-Bracero, Chemical and Molecular Characterization of Aerosols in the Caribbean During African Dusts Events: Focusing on Fungal Content, American Meteorological Society, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, Puerto Rico, April 2016.

Santos-Figueroa G., B. Bolaños-Rosero, O.L. Mayol-Bracero, Fungal Spore Concentrations and Ergosterol Content in Aerosol Samples in the Caribbean During African Dust Events, American Geophysical Union, Fall Meet. Suppl., Abstract A23C – 0333, December 2015.

Mayol-Bracero, O. L., F. Morales-García, **G. Santos-Figueroa**, L. Custals, M. Izaguirre, J.M. Prospero, W.H. McDowell, African Dust Concentrations in the Caribbean Island of Puerto Rico, American Geophysical Union, Fall Meet. Suppl., Abstract A33L-0377, December 2015.

Montañez-López, J., **G. Santos-Figueroa**, O.L. Mayol-Bracero, Determinación de las incursiones del Polvo del África en Puerto Rico mediante el análisis de las propiedades químico-física de los aerosoles, Presentación de Afiches y Conversatorio Programa de Investigación de Verano 2015, CETP, UPR-RP, August 2015.

Santos-Figueroa, G., M. Díaz-Martinez, O. L. Mayol-Bracero, Chemical and Molecular Characterization of Primary Biogenic Aerosol Particles in the Caribbean During African Dust

Events, First International Workshop on the Long-Range Transport and Impacts of African Dust on the Americas. San Juan, PR, October 2011.

Santos-Figueroa, G., F. Morales-García, O. L. Mayol-Bracero, The Carbonaceous Fraction of Atmospheric Aerosols in the Caribbean Region, 10th ICCPA Conference, Vienna, Austria, June 2011.

Santos-Figueroa, G., A. Gioda, O. L. Mayol-Bracero, The Carbonaceous Fraction of Atmospheric Particles in the Caribbean Region, 31th Puerto Rico Interdisciplinary Scientific Meeting (PRISM), Arecibo, Puerto Rico, March 2011.

Santos-Figueroa, G., A. Gioda, O. L. Mayol-Bracero, The Size-Resolved Carbonaceous Fractions of African dust Particles over the Caribbean, 30th Puerto Rico Interdisciplinary Scientific Meeting (PRISM), UPR Mayagüez, Puerto Rico, March 2010.

Santos-Figueroa, G., A. Gioda, O. L. Mayol-Bracero, Size-Resolved Chemical Composition of African Dust Particles over the Caribbean: Focusing in the Carbonaceous Fraction, 29th Puerto Rico Interdisciplinary Scientific Meeting (PRISM), University of Puerto Rico-PR, PR, March 2009.

Santos-Figueroa, G. A. Gioda, O.L. Mayol-Bracero, Size-Resolved Chemical Composition of African Dust Particles over the Caribbean: How About Carbonaceous Aerosols?, Annual Biomedical Research Conference for Minority Students, Orlando, Florida, November 2008.

Gioda, A., O.L. Mayol-Bracero, G.J. Reyes-Rodriguez, **G. Santos-Figueroa**, J. Collett, S. Decesari, M.C.K.V. Ramos, H.J.C. Bezerra-Netto, F.R. Aquino Neto, The Impact of Long-range Transport on the Chemical Composition of Aerosol, Cloud, and Rainwater in Puerto Rico, IGAC 10th International Conference, Annecy, France, September 2008.

Santos Figueroa, G., A. Gioda, O.L. Mayol-Bracero, The Size-Resolved Carbonaceous Fraction of African Dust Particles Over the Caribbean During 2007 Summer Months, 28th Puerto Rico Interdisciplinary Scientific meeting (PRISM), University of Puerto Rico, Arecibo, PR, March 2008.

Santos Figueroa, G., A. Gioda, O.L. Mayol-Bracero, Size-Resolved Chemical Composition of African Dust Particles over the Caribbean: How About Carbonaceous Aerosols? 4th RISE Area Conference, University of Puerto Rico, Rio Piedras, PR, March 2008.

Gioda, A., O. L. Mayol-Bracero, G. J. Reyes Rodriguez, **G. Santos-Figueroa**, R. J. Morale De Jesús, J. Collett, Organic Carbon in Cloud Water and Aerosols from a Tropical Marine Environment, Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract A33B-0992, December 2007.

Santos-Figueroa, G., O. L. Mayol-Bracero, A. Gioda, L. M. Santiago, Size-resolved Chemical Composition of African Dust Particles over the Caribbean: How about Carbonaceous Aerosols?, Eos Trans. AGU, 87(52), Fall Meet. Suppl., A33E-1646, December 2007.

Santos-Figueroa, G., A. Gioda, L.M. Santiago, O.L. Mayol-Bracero, Size-Resolved Organic Matter in African dust Particles over the Caribbean During the 2007 Summer Months, Annual Biomedical Research Conference for Minority Students, Austin, Texas, November 2007.

Gioda, A., O. L. Mayol-Bracero, G. J. Reyes-Rodriguez, **G. Santos-Figueroa**, R. J. Morales-De Jesús, J. Collett, S. Decesari, Water-Soluble Organic Carbon and Nitrogen in Aerosol, Cloud, and Rain Water from a Mountaintop in Puerto Rico, 4th International Conference on Fog, Fog Collection and Dew, Chile, July 2007.

Gioda, A., O. L. Mayol-Bracero, G. Reyes-Rodriguez, **G. Santos-Figueroa**, R. J. Morales-De Jesús, J. Collett, S. Decesari, The Chemical Composition of Cloud Water at the East Peak, Puerto Rico: Water-Soluble Organic and Inorganic Species, Gaia and Climate Change, University of Puerto Rico, April 2007.

Santos Figueroa, G., A. Gioda, O.L. Mayol-Bracero, Size-Resolved Organic Matter in African Dust Particles Over the Caribbean, 27th Puerto Rico Interdisciplinary Scientific meeting (PRISM), Interamerican University, Bayamon, PR, March 2007.

Gioda, A. O. L. Mayol-Bracero, G. J. Reyes Rodriguez, **G. Santos- Figueroa**, R. J. Morales-De Jesús, J. Collett, Organic Carbon in Cloud Water and Aerosols from a Tropical Marine Environment, Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract A33B-0992, 2006.