

Curriculum Vitae

Maria A. Garcia

Research Associate, Atmospheric Sciences
REU Program Manager (REALM)
University of Utah, 135 S 1460 E, Salt Lake City, Utah 84112
801.792.3277
Mag10@utah.edu

Education

University of Utah, Salt Lake City, UT Chemical Physics B.S., 2003
University of Utah, Salt Lake City, UT Chemical Physics Ph. D., 2013

Professional Experience (University of Utah, Salt Lake City, UT)

2018 – present Research Associate, Atmospheric Sciences
2013 – 2020 Research Analyst, School of Biological Sciences
2004 – 2013 Research Assistant, Department of Chemistry

Professional Experience – other

1994 – 2009 FedEx Express, Salt Lake City, Utah – Manager Air and Ground Operations
1989 – 1994 FedEx Express, Los Angeles, CA – Manager Air and Ground Operations

Publications

Gannet Hallar, Ian B. McCubbin, Randolph Borys, Douglas H. Lowenthal, Melanie Wetzel, Edward Hindman, Sarah D. Brooks, W. James Steenburgh, Lynne Gratz, Sebastian Hoch, Britton Stephens, John D. Horel, Noah P. Molotch, Gerald G. Mace, Adriana Bailey, Claire Pettersen, Elisabeth Andrews, Dan J. Cziczko, Maria Garcia. Storm Peak Laboratory: A Research and Training Facility for the Atmospheric Sciences, BAMS. <https://doi.org/10.1175/BAMS-D-24-0043.1>, (2025).

Gerardo Carrillo-Cardena, Sebastian W. Hoch, Eric Pardyjak, Maria Garcia, William Brown, Zhaoxia Pu, A. Gannet Hallar. Elucidating New Particle Formation in Complex Terrain During the Winter 2022 Cold Fog Amongst Complex Terrain (CFACT) Campaign. *Journal of Geophysical Research Atmospheres* (2024). <https://doi.org/10.22541/essoar.172494455.59133229/v1>

Zhaoxia Pu, Eric R. Pardyjak, Sebastian W. Hoch, Ismail Gultepe, A. Gannet Hallar, Alexei Perelet, Rebecca Beal, Gerardo Carrillo-Cardenas, Xin Li, Maria Garcia, Steven Oncley, William Brown, Jeffrey Anderson, Jacquelyn Witte, and Andrei Vakhti. Cold Fog Amongst Complex Terrain, BAMS. <https://doi.org/10.1175/BAMS-D-22-0030.1> (2023).

John C. Lin, Ryan Bares, Benjamin Fasoli, Maria Garcia, Erik Crosman, Seth Lyman. Declining methane emissions and steady, high leakage rates observed over multiple years in a western US oil/gas production basin, *Scientific Reports*, volume 11, Article number: 22291 (2021)

A. Walter-McNeill, M. A. Garcia, B A Logan, D. M. Bombard, J. S. Reblin, S. Lopez, C. D. Southwick, E. L. Sparrow, D. R. Bowling (2021) Wide variation of winter-induced sustained thermal energy dissipation in conifers: a common-garden study, *Oecologia*, DOI:10.1007/s00442-021-05038-y.

Andrew Lambert, A. Gannet Hallar, Maria Garcia, Courtney Strong, Elizabeth Andrews, Jenny L. Hand. Dust Impacts of Rapid Agricultural Expansion on the Great Plains. *Geophysical Research Letters*, Volume 47, Issue 20, <https://doi.org/10.1029/2020GL090347>, (2020)

Bares, R., Mitchell, L., Fasoli, B., Bowling, D. R., Catharine, D., Garcia, M., Eng, B., Ehleringer, J., and Lin, J. C.: The Utah urban carbon dioxide (UUCON) and Uintah Basin greenhouse gas networks: instrumentation, data, and measurement uncertainty, *Earth Syst. Sci. Data*, 11, 1291–1308, <https://doi.org/10.5194/essd-11-1291-2019>, 2019.

Troy S. Magney, David R. Bowling, Barry A. Logan, Katja Grossmann, Jochen Stutz, Peter D. Blanken, Sean P. Burns, Rui Cheng, Maria A. Garcia, Philipp Köhler, Sophia Lopez, Nicholas C. Parazoo, Brett Raczka, David Schimel, and Christian Frankenberg. “Mechanistic evidence for tracking the seasonality of photosynthesis with solar-induced fluorescence”, *PNAS* June 11, 2019 116 (24) 11640-11645.

Le, T. Steimle, M.D. Morse, M. A. Garcia, L. Cheng, J. Stanton. “Hyperfine Interactions and Electric Dipole Moments in the $[16.0]1.5(v=6)$, $[16.0]3.5(v=7)$ and $X^2\Delta_{5/2}$ States of Iridium Monosilicide, IrSi”. Submitted to the *Journal of Physical Chemistry A*, May 21, 2013.

Maria A. Garcia and Michael D. Morse, “Electronic spectroscopy and electronic structure of copper acetylide, CuCCH”. *J. Chem. Phys. A*. March 2013.

Maria A. Garcia and Michael D. Morse, "Electronic spectroscopy and electronic structure of diatomic IrSi". *J. Chem. Phys.* **138**, 154306 (2013).

Maria A. Garcia and Michael D. Morse, "Resonant two-photon ionization spectroscopy of jet cooled OsN: 520 - 418 nm", *J. Chem. Phys.* **135**, 114304-12 (2011).

Conferences

63rd Ohio State University International Symposium on Molecular Spectroscopy, June 16-20, 2008, “Resonant two-photon ionization spectroscopy of jet cooled osmium nitride” (oral presentation) Maria A. Garcia and Michael D. Morse.

SACNAS 2008 National Conference, Salt Lake City, UT, October 9-12, 2008 “Resonant two-photon ionization spectroscopy of jet cooled osmium nitride” (poster) Maria A. Garcia and Michael D. Morse.

30th International Symposium on Free Radicals, Savonlinna, Finland, July 25-30, 2009 “Resonant two-photon ionization spectroscopy of jet cooled osmium nitride” (poster) Maria A. Garcia and Michael D. Morse.

MGE@MSA/WAESO Student Research Conference, January 28, 2010 “Resonant two-photon ionization spectroscopy of jet cooled osmium nitride” (poster) Maria A. Garcia and Michael D. Morse.

57th Annual Western Spectroscopy Association Conference, February 3-5, 2010 “Resonant two-photon ionization spectroscopy of jet cooled osmium nitride” (poster) Maria A. Garcia and Michael D. Morse.

Awards

University of Utah, College of Science Safety Award – June 2023

Minority Graduate Education @MSA Fellowship, NSF — Fall 2005 – 2012

Synergistic Activities

- Managed the University of Utah CO₂ and CH₄ primary standards for trace gas measurements, directly linked to World Meteorological Organization (WMO) standards.
- Provided technological support for Storm Peak Laboratory, including Linux server administration, installation and maintenance of instrumentation, data acquisition management, and QA/QC of aerosol data.
- Managed recruitment, application development, and website operations; mentored students and developed strategic plans as the program manager for the REALM REU.
- Maintained infrared spectroscopic measurements of atmospheric CO₂ and its stable isotopes ($\delta^{13}\text{C}$ and $\delta^{18}\text{O}$) using a tunable diode laser at Niwot Ridge, Colorado (2013–2016).
- Participated in the WMO/IAEA Round Robin Comparison Experiment for CO₂ mole fraction at the University of Utah (2014, 2022).