

**NAME, First Name:** DESHLER, Terry

**Affiliation:** Laboratory for Atmospheric and Space Physics, University of Colorado, Boulder

**Role in the project:** Expert on: In situ measurements of stratospheric aerosol size distribution using optical particle counters. The use of this information for satellite validation and for guidance on the use of remote measurements: solar occultation, limb scatter, lidar, to derive physical quantities important for climate/chemistry models such as aerosol surface area, cross section, and volume. This is related to tasks 1, 2 and 3.

**Current position:** Research Scientist (2016- ), Professor Emeritus (2014- )

**Former Position(s):** Professor (1999-2014), Assoc Prof (1994-1999), Assis Prof (1991-1994)  
Department of Atmospheric Science, University of Wyoming

**Education:** PhD Physics, 1982, MS Atmospheric Science, 1975, BA Mathematics, 1969. All from the University of Wyoming

**National and/or International Committees:** Co-convener Chapman conference on Stratospheric aerosol in the post-Pinatubo era, March 2017. Member scientific steering committee for the SPARC activities: Polar stratospheric clouds, 2014-2019, SSiRC (Stratospheric sulfur and its role in climate), 2012-present.

**Honors:** Presidential Research Award and Presidential Speaker, University of Wyoming, April 2005. Editor's citation for excellence in refereeing, . Journal Geophysical Research, May 2002.

**Selected Publications:**

Cairo, F., Deshler, T., Di Liberto, L., Scoccione, A., & Snels, M. (2023). A study of optical scattering modelling for mixed-phase polar stratospheric clouds. *Atmospheric Measurement Techniques*, 16(2), 419–431.

<https://doi.org/10.5194/amt-16-419-2023>

Kalnjais, L. E., & Deshler, T. (2022). A New Instrument for Balloon-Borne In Situ Aerosol Size Distribution Measurements, the Continuation of a 50 Year Record of Stratospheric Aerosols Measurements. *Journal of Geophysical Research: Atmospheres*, 127(24), e2022JD037485. <https://doi.org/10.1029/2022JD037485>

Li, Y., Dykema, J., Deshler, T., & Keutsch, F. (2021). Composition Dependence of Stratospheric Aerosol Shortwave Radiative Forcing in Northern Midlatitudes. *Geophysical Research Letters*, 48(24), e2021GL094427.

<https://doi.org/10.1029/2021GL094427>

Nyaku, E., Loughman, R., Bhartia, P. K., Deshler, T., Chen, Z., & Colarco, P. R. (2020). A comparison of lognormal and gamma size distributions for characterizing the stratospheric aerosol phase function from optical particle counter measurements. *Atmospheric Measurement Techniques*, 13(3), 1071–1087. <https://doi.org/10.5194/amt-13-1071-2020>

Deshler, T., Luo, B., Kovilakam, M., Peter, T., & Kalnjais, L. E. (2019). Retrieval of Aerosol Size Distributions From In Situ Particle Counter Measurements: Instrument Counting Efficiency and Comparisons With Satellite Measurements. *Journal of Geophysical Research: Atmospheres*, 124(9),

Höpfner, M., Deshler, T., Pitts, M., Poole, L., Spang, R., Stiller, G., & Clarmann, T. von. (2018). The MIPAS/Envisat climatology (2002–2012) of polar stratospheric cloud volume density profiles. *Atmospheric Measurement Techniques*, 11(10), 5901–5923. <https://doi.org/10.5194/amt-11-5901-2018>

Vernier, J.-P., T. D. Fairlie, T. Deshler, M. Natarajan, T. Knepp, K. Foster, F. G. Wienhold, K. M. Bedka, L. Thomason, and C. Trepte (2016), In situ and space-based observations of the Kelud volcanic plume: The persistence of ash in the lower stratosphere, *J. Geophys. Res. Atmos.*, 121, 11,104–11,118, doi:10.1002/2016JD025344.