



BIOGRAPHY



UNITED STATES SPACE FORCE

DR NATHAN DALRYMPLE

Dr. Nathan Dalrymple is the Technical Director of the Space Rapid Capabilities Office (Space RCO), Kirtland AFB, New Mexico. In this role, Dr. Dalrymple leads the Space RCO engineering enterprise to architect "first-of" space capabilities for the USSF on quick-turn timelines. Dr. Dalrymple also spearheads engagement with industry, defense laboratories, and academia to pull technologies at appropriate readiness levels into rapid acquisition programs for next-gen space capabilities.

Dr. Dalrymple served in multiple roles at the Systems Technology Office (STO), Air Force Research Laboratory (AFRL), Wright-Patterson AFB, OH, including Technical Director of a major science and technology development program and Program Manager of a multi-domain warfighting technology development program. At STO, Dr. Dalrymple led the development and explosive growth of new mission areas, resulting in multiple successful flight experiments and hardware deliveries.

Dr. Dalrymple achieved breadth and depth in multiple roles at Space Vehicles Directorate, AFRL. This included Mission Lead of Defensive Space Control, Senior Principal Investigator of the Flight Experiments Division, Principal Investigator for the EAGLE mission, Program Manager of the Solar Disturbance Prediction Program, and Lead Thermal Engineer of the Advanced Technology Solar Telescope (ATST, now named Daniel K. Inouye Solar Telescope).



EDUCATION

1993 Bachelor of Science, Mechanical Engineering, University of Houston, Houston, TX
1995 Master of Science, Mechanical Engineering, University of Houston, Houston, TX
2001 Doctor of Science, Nuclear Engineering, Massachusetts Institute of Technology, Cambridge, MA

CAREER CHRONOLOGY

1. January 2001 - July 2001, Mechanical Engineer, Air Force Research Laboratory, Space Vehicles Directorate, Hanscom Air Force Base (AFB), Mass
2. July 2001 – July 2006, Astrophysicist, Program Manager, and Thermal Systems Designer, Air Force Research Laboratory, Space Vehicles Directorate, National Solar Observatory, Sunspot, N.M.
3. July 2006 – August 2012, Mission Area Lead, Defensive Space Control, Air Force Research Laboratory Space Vehicles Directorate, Kirtland AFB, N.M.
4. June 2011 – August 2012, Senior Principal Investigator, Flight Experiments Division, Air Force Research Laboratory, Space Vehicles Directorate, Kirtland AFB, N.M.
5. August 2012 – October 2019, Technical Director, Advanced Integration Team, Systems Technology Office, Wright-Patterson AFB, Ohio
6. October 2019 – October 2021, Program Manager, Systems Technology Office, Wright-Patterson AFB, Ohio

7. October 2021 - Present, Technical Director, Space Rapid Capabilities Office, Kirtland AFB, N.M.

MAJOR AWARDS AND DECORATIONS

2018 AFRL Fellow
2018 AFRL Commander's Cup Team Award
2003 Team Publication of the Year, Space Vehicles Directorate, AFRL
1996 Air Force Palace Knight

PUBLICATIONS

The Dynamic Behavior of a Boiling Front in Jet-Impingement Boiling, N. E. Dalrymple, N. M. Dukle, and D. K. Hollingsworth, Proceedings of the ASME/JSME Thermal Engineering Joint Conference, Volume 2, pp. 339 – 346, Maui, Hawaii, 1995.

Laboratory Reproduction of Arecibo Experimental Results: HF Wave-Enhanced Langmuir Waves, M. C. Lee, R. J. Riddolls, K. D. Vilece, N. E. Dalrymple, M. J. Rowlands, D. T. Moriarty, K. M. Groves, M. P. Sulzer, and S. P. Kuo, Geophysical Research Letters, Volume 24, Number 2, pp. 115 – 118, 1997.

Fast Flat Fields from Scanning Extended Sources, N. E. Dalrymple, M. Bianda, P. H. Wiborg, Publications of the Astronomical Society of the Pacific, Vol. 115, p. 628, May 2003.

An Experimental Study of Daytime Enclosure Seeing at BBSO, N. E. Dalrymple, T. Rimmele, S. Hegwer, J. Marino, Bulletin of the American Astronomical Society, Vol. 35, No. 4, 2003.

ATST Enclosure: Seeing Performance, Thermal Modeling, and Error Budgets, N. Dalrymple, J. Oschmann, and R. Hubbard. SPIE vol. 5497, Modeling and Systems Engineering for Astronomy, S.Craig and M.Cullum, Eds. 497-507, 2004.

Thermal Analysis of a Large Telescope Mirror, N. Dalrymple, book chapter in Heat Transfer Calculations, M. Kutz, Ed. McGraw-Hill 2005.

Space Superiority—Enabled by High-Risk High Payoff Technologies, B. Singaraju, T. Caudill, and N. Dalrymple, High Frontier Journal vol. 3 no. 3, Air Force Space Command, Peterson AFB, CO 2007.

PROFESSIONAL MEMBERSHIPS AND ASSOCIATIONS

Member, American Physical Society
Member, Acquisition Corps

(Current as of May 2022)