DR. DAVID FINKLEMAN

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Over forty years experience in civil, commercial, and military research, development, program management, operational analysis, and advanced technology.

Present: Consultant/Emeritus Scientist, Air Force Research Laboratory: Affiliate of Burdeshaw Associates, supporting space based radar technology, military operation planning and analysis, and integrating technology into military systems. Associate of the Institute for Defense Analyses, engaged in missile defense battle management, command, and control for the Ground Based Mid-Course Defense shortly to be deployed, particularly launch detection and integrating missile defense with current strategic defense capabilities. Contributor to Defense Science Research Council. Clients include Lockheed-Martin, the Army Space and Missile Defense Battle Laboratory, the Missile Defense Agency, and the Defense Advanced Research Projects Agency.

1985 – 2003: ***Director of Analysis and Chief Technical Officer, United States Space Command and North American Aerospace Defense Command.*** Led United States and Canadian military and civilian personnel responsible for all analytical and technical matters in both commands as well as support for other elements of the Joint Service and the Office of the Secretary of Defense. Responsibilities encompassed all United States military satellite systems, space surveillance, ballistic missile warning and defense, and all aerospace sovereignty and control capabilities of the United States and Canada. Senior technical authority for all NORAD and USSPACECOM missions, assuring assured that requirements were technically and operationally feasible. Served on the NORAD and USSPACECOM Battle Staffs, including on 9/11, developing courses of action for Operation Noble Eagle and Operation Enduring Freedom. Earned the highest peacetime civilian decoration, the Distinguished Service Medal, and was twice honored with the highest rank in the Executive Service, Distinguished Executive.

1983-1985: ***Director of Kinetic Energy Weapons, Strategic Defense Initiative Organization, and Director of Technology and Systems, Army Ballistic Missile Defense Organization***. Initial Director of Kinetic Energy Weapons. Developed the Kinetic Energy Weapons program and led transition of Service programs into the Strategic Defense Initiative. Simultaneously responsible for all Army ballistic missile defense systems technology and activities at the Kawjelein Missile Range.

Accomplishments included the Delta 180 and 181 experiments and important roles in the Homing Overlay Experiment, one of the first successful hit-to-kill intercepts of an intercontinental ballistic missile.

1973-1983: ***Deputy Program Manager, Navy Directed Energy Weapons Program.*** Conceived, developed, and tested all Navy sponsored directed energy weapons. Developed the Mid-Infrared Advanced Chemical Laser, which is still the most powerful and longest serving directed energy device of the type in the world. Led development of the SeaLite Beam Director and the High Energy Laser System Test Facility, which is today the principal directed energy weapon test resource for the United States. Other accomplishments included the Unified Navy Field Test Program, which was the first successful engagement of a supersonic missile with a high energy laser.

1963-1993 ***Colonel, United States Air Force***. Active service in the Air Force included tenure as an Associate Professor of Aeronautics at the United States Air Force Academy and as one of the first project leaders in the Air Force High Energy Laser Project. Left active duty ten years after commissioning and served in the active Air Force Reserve for the next 20 years. Senior Reservist in the Air Force Office of Scientific Research for many years, conceiving and directing research programs in physics, aerodynamics, and electronics at major universities. Mobilization Assistant to the Director of Science and Technology, Air Force Material Command, for the final five years of a 30 year Air Force career. Participated in formulating and managing the entire Air Force science and technology program.

Clearance: Top Secret—SSBI, SCI

Education

PhD, Massachusetts Institute of Technology, Department of Aeronautics and Astronautics, 1968. Thesis Research in Reentry Aerothermodynamics
SM, Massachusetts Institute of Technology, Department of Aeronautics and Astronautics, 1964
BSAE, Virginia Tech, Department of Aerospace Engineering, 1963 (Cooperative)
Graduate of Air War College, Air Command and Staff College, and Air Force Squadron Officer School
Advanced Management, Leadership, and System Acquisition courses at Harvard and the Defense Systems Management College.

MAJOR HONORS AND AWARDS:

Joint Distinguished Service Medal, 2003
Fellow of the American Association for the Advancement of Science, 2002
Fellow of the American Institute of Aeronautics and Astronautics, 1989. For accomplishments in aerodynamics, gasdynamics, directed energy weapons, and strategic defense.
Distinguished Executive, Federal Senior Executive Service (1996 and 2001). Highest distinction in Federal service.
Meritorious Executive, Federal Senior Executive Service (1994 and 1989)
Defense Distinguished Civilian Service Medal, 1993. Highest Civilian Decoration in the Department of Defense.
Legion of Merit, 1993. Highest peacetime distinction awarded officers below Flag rank.
Navy Distinguished Service Medal, 1977. Highest Navy Civilian decoration.

HOBBIES AND INTERESTS:

Mountaineering: 110 Climbs over 14,000 ft, including ski ascents and descents of major peaks.
Cycling: Road touring and mountain biking
Model Aircraft: Two meter and unlimited class radio controlled sailplanes. Powered radio control aircraft. Rubber powered and free flight scale aircraft. Current repertoire includes more than 130 aircraft.
Needlepoint: Awards at the Colorado State Fair.

REPRESENTATIVE RECENT PUBLICATIONS AND PRESENTATIONS:

Optimal Employment of Salvo Tactics for Ballistic Missile Defense, with Dr. Bao Nguyen, International Military Operations Research Conference, Banff, Alberta, Canada, 2004

Introduction to Data Fusion and Applications in Astrodynamics, Multisensor Fusion, NATO Series on Mathematics, Physics, and Chemistry, Vol 70, A.K. Hyder, E. Shabazian, and E. Waltz, eds, Klewer Press, 2002

Scientific and Technical Aspects of NORAD and USSPACECOM Responses to 9/11, presentations to JASONS, Defense Science Board, and numerous other bodies, 2001-2002

Space, Missile Defense, and the Threat of Nuclear War, Proceedings of the American Philosophical Society, Millennial Symposium, April 2000

Ballistic Missile Launch Detection and Trajectory Prediction, Military Operations Research Society Annual Meeting, Monterey, CA, June 1998

Strategic Defense Force Structure Assessments, Military Operations Research |Society Annual Meeting, Monterey, CA, June 1998

Surveillance Satellite Constellation Analysis, Military Operations Research |Society Annual Meeting, Monterey, CA, June 1998

Simulation of Communications, Command, and Control for North American Strategic Warning and Defense, Military Operations Research |Society Annual Meeting, Monterey, CA, June 1998

Integrating National Missile Defense in Current Strategic Command and Control, AIAA-BMDO Technology Readiness Conference, San Diego, CA, August 1997

Joint Canada-US Continental Missile Defense Study, NORAD Report, June 1995

Early Warning Radar Alternatives, USSPACECOM Report, Nov 1997

Analysis of Regional and Sector Air Operation Center Mission Loading, Oct 1994

Incorporating Space Missions and Systems in Joint Modeling and Simulation, XXXV Army Operations Research Symposium, Ft Lee, VA, Nov 1996

Single Stage to Orbit Considerations, Contribution to the Moorman Launch Study, 1995.

Consistent Fusion of Multiple Ballistic Missile Launch and Impact Reports, USSPACECOM Report, Nov 1997

Screening the Satellite Background Against Laser Radiation, USSPACECOM Memorandum, Oct 1997

Approaches to Global Positioning System Assurance and Denial, USSPACECOM Report, Jan 1998

Space Surveillance as a Warfighting Mission, USSPACECOM Report, Feb 1998

Analysis of Ascent Phase Ballistic Missile Intercept, USSPACECOM Report, Mar 1998

Early Warning Radar Response to Limited Attacks, Military Operations Research Society Annual Meeting, Ft Leavenworth, KS, June 1996