

## **Steven P. D. Smith, Ph.D.**

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### Education:

**Ph.D.** 1967 University of Florida, Gainesville, Florida  
Nuclear Engineering Sciences with an emphasis in Propulsion Systems  
**M.S.E.** 1963 University of Florida, Gainesville, Florida  
Engineering Sciences with an emphasis in Fast Neutron Moderation  
**B.S.M.E.** 1962 University of Florida, Gainesville, Florida  
Mechanical Engineering with an emphasis in Thermodynamics, Direct Energy Conversion, and Digital Computer Design

### Experience:

01/2001-Present

*Senior Research Physicist*  
*Georgia Institute of Technology Research Institute*

Assigned under an Intergovernmental Personnel Act assignment to the Aviation and Missile Research, Development, and Engineering Center (AMRDEC) as the "Senior Technical Advisor to the Director."  
Supports the AMRDEC Director in a wide variety of functions and assignments:

- 1 Develops and reviews progress of AMRDEC strategic plan
- 2 Conducts evaluations and analyses of concepts to assure that AMRDEC programs are consistent with warfighter requirements
- 3 Harmonizes and unifies investment and partnership strategy
- 4 Represents the Director at national and international science, technology, and engineering conferences, conventions, meetings, and high-profile activities
- 5 Assists the Associate Director for Systems, Associate Director for Aviation, Associate Director for Aviation Technology and Associate Director for Missile Technology in the planning and execution of research, development, and engineering programs

10/1999 – 01/2001

*Acting Deputy Director of the Advanced Systems Directorate (ASD)*  
*Aviation and Missile Research, Development, and Engineering Center (AMRDEC)*

*Chief of the Technology Integration Division (TI)*  
*Aviation and Missile Research, Development, and Engineering Center (AMRDEC)*

Responsible for the synthesis and defense of AMRDEC's \$100 M to \$200 M research, exploratory development, and advanced development programs. Served as senior engineering advisor to the AMRDEC Executive Director, the Associate Director for Aviation and Missile Systems, the Associate Director for Aviation Technology, and the Associate Director for Missile Technology. Advised and assisted in the planning and execution of technical research and exercise authority in their behalf to assure adequacy of resources, effectiveness of projects, and a balanced technical capability. Managed the Aviation and Missile Command's (AMCOM's) Independent Research and Development (IRAD) Utilization Program, the Relations with Industry Program, the Advanced Concept and Technology II Program, and the Small Business Innovative Research (SBIR) Program. The SBIR Program increased from \$575 k to \$40 M. Also, in the capacity of Deputy Director, achieved the effective daily administration and support functions during the melding of four dissimilar organizations [Missile Research, Development, and Engineering Center's (MRDEC's) Advanced Systems Concepts Directorate, MRDEC's Technology Integration Office, MRDEC's Redstone Scientific Information Center (RSIC),

and Aviation Research, Development, and Engineering Center's (AVRDEC's) Directorate for Advanced Systems] into AMRDEC's single technical staff office, ASD.

- 08/1991 – 10/1999 *Chief, Technology Integration Office  
Missile Research, Development, and Engineering Center (MRDEC)*  
Responsible for the synthesis and defense of MRDEC's \$50 M to \$100 M research, exploratory development and advanced development programs. Served as senior engineering advisor and consultant to the MRDEC Executive Director and Associate Director for Technology. Developed the concept and provided leadership for the creation of a Technology Transition Agreement (TTA) between MRDEC and the Program Executive Office-Tactical Missiles (PEO-TM). Served on the Army Materiel Command (AMC) Management Review Committee and developed proposals for the reorganization of AMC. Served as AMC's technical representative and system development expert on the Board of Army Science and Technology/Strategic Technologies for the Army of the 21<sup>st</sup> Century.
- 09/1986 – 08/1991 *General Engineer  
Missile Research, Development, and Engineering Center (MRDEC)*  
Developed Congressional Descriptive Summaries of technology base programs and prepared impact statement to program decrements. Synthesized the missile and high-energy laser technology base programs into a cohesive and cogent program. Served as technical manager of the US Army Missile Command's (MICOM's) Independent, Research and Development (IRAD) utilization program. Served as a major participant in the AIAA Program to develop a national competitive strategy to maintain/recapture international preeminence in propulsion technology. Developed a valuable US/UK Missile and Rocket Technology Exchange Agreement and an US/France Data Exchange Agreement. Served as the MICOM Office of Research and Technology Applications Officer. Structured a model program for compliance with PL 99-502 and 96-480 on transfer of technology developed by federal laboratories to the solution of state and local Government needs.
- 10/1974 – 09/1986 *Research Aerospace Engineer  
Missile Research, Development, and Engineering Center (MRDEC)*  
Initiated an insensitive (i.e., low vulnerability), high energy, minimum signature propulsion program. Advocated the program within the Army and DoD, and a well-funded, multi-year program, which depended heavily on simulation, test, and verification, was established as a result of my efforts. Served as the Group Leader responsible for Ballistic Missile Defense Propulsion and Propellant Technology. Performed the initial planning and developed the initial technical specifications for the Army Signature Characterization Facility. Established myself as a recognized expert in rocket exhaust signature and plume technology through numerous technical papers and presentations. This effort resulted in my being awarded the US Army Missile Command's Scientific and Engineering Achievement Award in 1980 for my contributions to rocket signature evaluation and modeling for the verification of the technology by accurately predicting the guidance-propulsion signature interaction of HELLFIRE in static and flight tests. Conducted analytical and experimental studies on techniques on improving the accuracy and reducing the cost of the free flight rockets.
- 04/1967 – 10/1974 *Research Aerospace Engineer  
Missile Research, Development, and Engineering Center (MRDEC)*  
Served as the US Army Missile Command's first liaison officer to the Office of the Secretary of Defense Director of Research and Engineering and investigated the interrelationships of properties of laboratory organizations and determined the factors pertinent to measuring outputs. Initiated the development of the Army's current family of minimum signature motors. The effort resulted in the Army fielding the Smokeless CHAPARRAL rocket motor and was subsequently incorporated into the HELLFIRE and the TOW missile systems. Exercised technical direction of the first demonstration of a large multiple-pulse solid propellant rocket motor with thrust magnitude and thrust vector control. Responsible for nuclear

effects research on propellants and propulsion systems. Investigated chemically-pumped and nuclear-pumped lasers. The latter work in the Army High Energy Laser Program reflected my findings of this investigation.

Professional  
Associations:

National Security Industrial Association      1987-1993  
American Nuclear Society                      1967-1973

Honors/  
Recognitions:

Department of the Army Meritorious Civilian Service Award, 2001  
MICOM Commander's Award for Civilian Service in 1980  
General Chairman of the National Joint Army, Navy, NASA, and Air Force (JANNAF) Meeting in  
1976, 1981, and 1986  
Technical Chairman, American Nuclear Society Aerospace Meeting, 1971

Publications:

23 Open Literature Publications  
8 Government Classified Publications