

Alan Lee Wooldridge, Consultant

TrailBlazer Technologies, LLC

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Owner/consultant **TrailBlazer Technologies, LLC** providing performance solutions with a multi-disciplinary approach focused on leadership coaching, business change management, human capital development, and performance support automation for space, military, and civilian applications. Specializing in simulation systems, life cycle cost estimation systems, multivariate performance measurement, cockpit workload assessment, HR management automation, and automated training analysis and management systems.

Current Homeland Security Secret Level Clearance

Summary of Formal Education

M.S. Industrial Engineering and Management Science, *University of Central Florida, Orlando, FL*

B.A. Psychology, *University of Central Florida, Orlando, FL*

B.S. Industrial Engineering and Management Science, *University of Central Florida, Orlando, FL*

Professional Experience

Integrated Spaceflight Services, LLC.

(2011 – Present)

Vice President

Developing procedures for costing, designing, manufacturing, and qualifying hardware for commercial suborbital and orbital spacecraft. Currently supporting the development of a zero-G mass gauge for ATK propellant tanks to be used in Boeing spacecraft. Developed a satellite lifecycle cost estimation widget and satellite propellant storage characteristics database in MS ACCESS. Developed a commercial spaceflight astronaut training syllabus proposal for Wyle Aerospace.

Astronauts4Hire

(2010 – Present)

Advisory Board Member

Currently supporting the development of A4H's commercial spaceflight astronaut training standards.

TrailBlazer Technologies, LLC

(1989 – Present)

Consultant - PerformTech, Inc. for **Homeland Security Customs and Border Protection**

- Completed job task analysis for operating and maintaining border security surveillance systems, including the complete Boeing SBInet using own training analysis database to manage and analyze over 7,000 operator and maintenance tasks. Also provided a comprehensive media and methods analysis, and safety and hazards analysis of all SBInet tasks.
- Completed a training needs analysis to identify the scope of the pre- and post- Customs Academy curricula, the specific topics and learning objectives to be included in each, and the best delivery and assessment methods to employ in combined support of 169 customs officer tasks.

- Conducted a training and curriculum analysis to redesign the Border Patrol academy curriculum at Artesia New Mexico in support of streamlining training for the President's initiative to increase the number of available agents on the border.

Consultant - PerformTech, Inc. for Defense Commissary Agency (DeCA)

- Performed career management systems analysis, programming, and implementation of software upgrades to the Commissary Career Processing System (CCPS).
- Provided support and modernization of software and streamlining of CCP business process and DeCA HR initiatives for over 15 years.
- Developed and implemented other automated products for commissary manager evaluations, training effectiveness surveys, and prototype systems for human capital management. This work resulted in more than doubling performance efficiency while increasing customer satisfaction.
- Developed and delivered worldwide classroom training for new CCP programs and procedures.

Consultant - PerformTech, Inc. for Defense Information Systems Agency (DISA)

- Provided management and training analysis support for more than 12 years in the areas of human resource management research and analysis, business process change facilitation, management consulting, and training administration automation in a highly technical communications and data processing environment.
- The business process engineering and strategic planning support provided to support civilianization, change management, and downsizing of DISA's activities. The migration and downsizing activities (involving over 24,000 employees and the migration of 300 processing centers into 16 centers) is considered to be one of the major success stories in modern Government.
- Led a team of DISA subject matter experts to develop the baseline operational implementation of DISA's Learning Management System to provide a fully functional and comprehensive training analysis and management system based on analysis of over 3800 task topics (clusters of closely related tasks) with over 4700 related training interventions with the capability of tracking the training of over 7800 employees with over 352 core position descriptions.

Consultant - Rockwell Shuttle Operations Company (RSOC)

(1989)

- Provided training analysis, design tools, and evaluation for Space Station Freedom flight crew and ground support personnel.
- Authored the computer based training and training analysis and development section of the of the RSOC STS mission support continuation contract proposal.
- Participated in the NASA Quality Round table as a full member.

Consultant - Spar Aerospace

(1989)

- Developed training analysis, design, and evaluation tools and methodology for Space Station Freedom robotics training.

Barrios Technologies, Inc.

(1989 – 1990)

Project Manager/Senior Engineer

- Founded and guided the Space Station Working Group for **Space Station Freedom** (SSF, now ISS) at **NASA, Johnson Space Center**, TX, through the integrated analysis of mission goals, the alignment of international enterprise stakeholders toward the accomplishment of those goals, the planning for new performance, the diagnosis of performance deficiencies, and the development, implementation, conduct, and assessment of the performance interventions needed to achieve those goals.
- Developed and applied advanced analysis tools to provide a complete and detailed organizational mission analysis, task analysis, training objectives analysis, media selection, and simulator functional requirements analysis for the **NASA Space Station Freedom** flight crew and ground support personnel as the SSF mission design began to mature.
- Developed prototype training materials for **NASA** space station training.
- Authored and presented **NASA Space Station Freedom** training analysis presentations for local, national, and international conferences.

United Airlines Services, Inc.

(1986 – 1989)

Project Manager/Senior Project Engineer

- Led a team to review and evaluate **NASA** astronaut and mission controller training for **Rockwell Shuttle Operations Company (RSOC)**. Developed a comprehensive set of recommendations for the improvement of existing courseware and simulation systems, a prototype Automated Training Management System, a sample of advanced Computer Based Training, and a detailed management plan and guide for the improvement of the training business process and efficient production of courseware.
- Led a team at **Lockheed Space Operations Company** to review and evaluate **NASA** and contractor Launch Team training, and design a complete and comprehensive Launch Team Training System (LTTS) to be used for future space operations at Kennedy Space Center.
- Analyzed training requirements for **United States Air Force Undergraduate Space** Training to design, and implement an automated Satellite Model for simulated satellite control training.
- Developed the Space Training Management System (STMS), the Training Requirements Analysis Development Evaluation System (TRADES), and a four year comprehensive Training Development and Support Plan (TDSP) for the **Air Force Space Command 1013th Combat Crew Training Squadron (CCTS)** to be used by the CCTS for future tasking of the Training Support and Integration contractor. This included the development of standards and procedures for all levels of training evaluation.

Vreuls Research Corporation and Canyon Research Group, Inc.

(1974 – 1986)

Senior Scientist/Regional Director and then Vice President

- Performed over 30 human factors research studies and developed systems for simulator training and automated performance measurement for F-14, F-16, F-18, A-7, A-10, and F-4 air combat and aircraft carrier and approach landing under contracts to **Naval Training Systems Center (NTSC)**, **Naval Aerospace Medical Research Laboratory (NMRL)**, **Naval Air Systems Command (NAVAIR)**, and **Air Force Human Resources Laboratory (AFHRL)**.
- Developed and automated many adaptive training algorithms, pilot selection models, parametric and non-parametric analyses techniques, including multivariate ridge discriminant and state space analysis.
- Developed a methodology and automated support for the efficient operation of **Blue Flag** theater of battle training and developed training requirements and training concepts for **NATO EIFFEL 1** air tasking command and control for **AFHRL**.

Martin Marietta, Inc.

(1973 – 1974)

Quality Engineer

- Designed, reviewed, and approved software and documentation of automated manufacturing, and special engineering electronic systems and components testing for Sprint I and Sprint II anti-ballistic missile system airborne guidance electronics.

Affiliations/Professional Associations

A4H - Senior Technical Advisory Council

AIAA - American Institute of Aeronautics and Astronautics: Senior member.

SALT - Society for Applied Learning Technology

NDIA - National Defense Industrial Association

AFCEA International - The Armed Forces Communications and Electronics Association

Publications and Technical Documents

Mr. Wooldridge has authored over 175 technical reports, user guides, manuals, technical publications, conference presentations, instructor and student guides, training development and support plans, and conference presentations. He has presented lectures and classroom training internationally.