David S. Wright

aerospace systems engineer

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Detail-oriented aerospace systems engineer, combining creativity, technical breadth, and leadership

- Emphasis on **mechanical systems engineering** from design through AIT, launch, and on-orbit ops
- Master's degree in Aerospace Engineering, with **over 20 years' experience**
- Career spanning the **entire spacecraft life cycle**, including
  - Concept and architecture development
  - Mechanical design and modeling analysis
  - Requirements verification and validation
  - Cost analysis and risk assessment
  - Hardware and software testing
  - Launch and mission operations

experience

Maxar (formerly **Space Systems Loral**) — Palo Alto, CA ***2014—2023***

Senior Spacecraft Systems Engineer, Pointing Team *(2019—2023)*

As part of the critical two-person Pointing Team, **directed payload pointing for all spacecraft**, guiding all relevant subsystems, developing requirements, managing pointing error budgets, and addressing any deviations from spec.

Led payload pointing budget effort from proposal through in-orbit testing for multiple spacecraft.

- Analyzed and understood payload pointing error sources **across all subsystems** (structures, mechanisms, orbits, GNC, prop, alignments, deployment, CONOPS, etc.) **and time domains**.
- Levied and ensured verification of all pointing error allocations and derived requirements.
- Coordinated and resolved requirements trades between subsystems during design/development as well as any subsequent out-of-spec conditions in AIT and beyond.

Iterated and improved analysis tools with team lead for constantly evolving spacecraft designs.

- Addressed new antenna types, alternate payloads, non-heritage structures and orbit regimes.

Senior Mechanical Systems Engineer, Mechanical Systems Engineering *(2014—2019)*

Provided **mechanical engineering support and oversight** through design, manufacturing, test, and deployment operations for commercial communication satellites, focusing on structures, mechanisms, and payload alignment.

Simplified and automated a complex error allocation analysis tool for antenna alignment.

- Allowed for a wide range of antenna types and optional out-of-spec tolerance analysis.

Performed **spacecraft-level antenna deployment testing**.

- Led team to ensure proper off-loading and verification of first motion, clearances, and alignment.
- Designed, tested, and successfully executed on-orbit a deployment plan for a dual antenna system employing two swappable reflectors with complicated packaging and clearance issues.

Winner: Space Startup Weekend 2013 — Mountain View, CA ***2013—2015***

Pitched an idea, built a team, established a business plan, crafted a presentation, and led the team to victory. Worked with co-founder, mentors, and industry advisors to bring the vision to reality; ran out of runway.

Quality Assurance and Risk Management Services — American Canyon, CA ***2012—2013***

Technical Expert, LADEE EGSE Certification at NASA Ames Research Center in Sunnyvale, CA

Provided independent certification of all Electrical Ground Support Equipment (EGSE) for NASA's $280M Lunar Atmosphere and Dust Environment Explorer (LADEE) mission, successfully launched 7 September 2013.

Led the certification effort for NASA-STD-5005C, AFSPCMAN 91-710, and RSM 2002B.

- Determined and directed necessary actions to **meet requirements** on schedule.
- Provided **objective analysis** to ensure levied requirements were both reasonable and sufficient.
- Coordinated compliance and documentation with design engineers and program management.

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The Aerospace Corporation — El Segundo, CA ***2002—2012***

Space Systems Architecture Engineer, Space Architecture Department *(2005—2012)*

Performed research, tool development, and systems engineering analysis for systems-level, architecture-level, and cross-portfolio programmatic and engineering assessments of space/launch systems for NASA and NSS programs.

Created a new modeling and simulation tool for performance analysis of unmanned aerial vehicles.

- Created concept, initiated project, procured $25k internal R&D funds, and led development.

Collaborated in the **Concept Design Center**, a concurrent environment for systems architecture trade studies.

- Participated in **multi-disciplinary study teams** to identify top-level requirements and develop pre-acquisition architectures that would drive new systems-of-systems.

Programmer, modeler, troubleshooter, and code developer for analysis projects and trade studies.

- Maintained, debugged, enhanced, and developed modeling and simulation tools and supported end-to-end modeling activities as a **VBA/Excel subject matter expert**.

Deputy Program Manager, Space Superiority Systems Program Office *(2002—2005)*

As program management liaison between United States Air Force space programs and The Aerospace Corporation, managed independent oversight, technical analyses, and risk assessments in a highly political environment.

Space Based Space Surveillance, $800M Pathfinder spacecraft for a new USAF program, launched in 2010.

- **Technical lead** for the spacecraft segment, coordinating USAF, contractor, and Aerospace Corp. personnel in the analysis and resolution of program development and system acquisition issues.
- Led spacecraft segment through **two source selections**, contract award, and early development.

Led a key program segment of a classified program (**Top Secret/SCI**) through two successful major reviews.

- Prepared extensive requirements traceability documentation for validation and verification.

Boeing Satellite Systems (formerly **Hughes Space & Comm.**) — El Segundo, CA ***2000–2002***

Technical Staff, Ground Systems—Flight Software

Streamlined development and implementation of flight dynamics software as the **cross-functional liaison** between the *Flight Software* and *Mission Analysis and Operations* groups by working GTO missions with other end users.

Integrated Product Team managing flight dynamics software development and acquisition.

- Interfaced with international supplier to direct ongoing software development and resolve technical and programmatic issues, including ITAR.
- Performed acceptance and regression testing and troubleshooting with other end users.

Mission Operations, Orbit Dynamics Team for 24x7 geostationary transfer orbit operations.

- Participated in dynamic multi-disciplinary environment, working to resolve issues in real time, including the **successful recovery** of the TDRS-I satellite after a propulsion system failure.
- Created mission plans, calculated orbit determinations and pass predicts, performed post-maneuver calibrations, resolved anomalies, and prepared maneuver messages for SC upload.

Swales Aerospace — Pasadena, CA ***Summer 2000***

Thermal Test Engineer, TVAC testing at Hughes Space and Communications in El Segundo, CA.

Developed and prepared testing procedures and protocols. Supported 24x7 TVAC test operations for three geostationary communication satellites, monitoring S/C temperatures and adjusting manual heater controls as required based on test phase and payload operating modes, to achieve test goals and maintain safety margins.

professional associations

AIAA, INCOSE

education

University of Southern California — Los Angeles, CA

MS, Aerospace Engineering	*2001*
BS, Aerospace Engineering	*1999*
BS, Astronomy	*1999*