

# BILL TANDY

*Architect for Demanding Space Missions*



**Website**

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## EXPERIENCE

### BLUE ORIGIN

*Sr. Manager of Mission Architects / 2020 - Present*

- Architect and Chief Engineer for the multi-billion-dollar space station, Orbital Reef. I am the key technical leader for all disciplines and systems across a team of hundreds of employees in this hardware-rich, fast-paced program. My work includes concept development, ground systems, mock-ups, customer and vendor support, supplier contracts, facility planning, and all trade studies related to this next-generation system.
- Architect and Chief Engineer for additional programs worth \$350+ million. Work includes mapping design and construction standards, creating and integrating custom toolsets, and mentoring junior engineers.
- Verification, Validation, & Certification Lead for the National Team's lunar Human Landing System. I managed the planning and documentation of thousands of requirements across all partners. We received zero deficiencies from NASA in this area.
- Senior manager for all architects in the Advanced Concepts division. My team spans "fresh out" college graduates to people with 40+ years of experience in systems architecture. I ensure our group is using the best tools and processes to rapidly trade large numbers of options quickly. I also hire staff and assign them to programs.

### BALL AEROSPACE & TECHNOLOGIES

2006 - 2019

#### *Mission Architecture & Technical Design Lead*

- Mission Architect for over \$500 million in mission concepts for space, air, and ocean environments. Systems were both active (e.g., laser and in situ) and passive (e.g., spectrometers and antennas).
- Set priorities for dozens of people across all engineering disciplines including mechanical, electrical, thermal, software, electrical, radiation, and test to develop technical approaches. I also worked with legal, financial, and corporate strategy departments to develop contracts, staffing, and budgets to support the technical work.
- Worked and traveled with Principal Investigators and customers to translate mission goals into requirements. Supporting their conferences involved creating a poster or presented paper to demonstrate topic expertise.

#### *Airborne Operations*

- End-to-end science campaign support including aircraft and airfield selection, pilot training, FAA documentation, payload installation, flight planning, instrument operations, in-air navigation, and budgeting.
- Over 900 hours of in-flight instrument operations in tight spaces, in temperature and pressure altitude extremes requiring O2 masks, and under stiff financial pressure to get it right the first time.
- Developed post-flight processing software in Matlab and Python to generate products for customers and partners.

# BILL TANDY

*Two Decades of Aerospace Leadership*

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## EXPERIENCE CONTINUED

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### *Research & Development*

- Led and participated in dozens of research teams through the cradle-to-grave lifecycle. Most projects resulted in proposals to funding agencies and more than half have been used in production systems.
- Rapidly developed subject expertise in new knowledge domains.
- Integrated custom code with commercial and open-source libraries to optimize solutions. Example interfaces include STK, NASTRAN, MODTRAN, the Robot Operating System (ROS), OpenCV, and OpenGL.

### *Structures & Dynamics*

- Cradle-to-grave, full-stack structural analysis for space systems worth billions including JWST, NPP, World-View, and Classified programs. Systems I have signed off have never failed when manufactured to specification.
- Responsible for all tests including thermal, shock, sine, and random vibration level definition, accelerometer placement, in-lab control of test operations, real-time analysis and test modification, and report generation.
- Wrote over 500,000 lines of Matlab code to automate finite element and material generation, process post-run data, and generate reports. Company-wide adoption saved hundreds of hours each year.
- Group lead: documented quarterly and annual performance, reviewed resumes, interviewed candidates, and participated in the year-end ranking and promotion meetings.

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## ADDITIONAL EXPERIENCE

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### TOOLS

- Systems: Doors Next Gen, Jira, Confluence, Visio
- CAD: IDEAS, NX, Solid-Works, Inventor, Creo
- Analysis: NASTRAN, FEMAP, LS-DYNA, NX, Zemax, STK, Modtran

### PROGRAMMING

- Matlab - Expert
- Python - Expert
- HTML/Javascript - Expert
- C, C++, C# - Proficient

### ADVENTURE

- Trekked 1,000+ miles in New Zealand
- Rode my bicycle 5,000+ miles across North America
- Instrument rated pilot
- SCUBA

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## EDUCATION

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### PHD AEROSPACE ENGINEERING

*University of Colorado at Boulder / 2014-2017*

### MS AEROSPACE ENGINEERING

*University of Texas at Austin / 2004 - 2006*

### BS AEROSPACE ENGINEERING

*University of Texas at Austin / 2001 - 2004*