

Terrance V. Yee

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WORK EXPERIENCE

President & CEO Black Sun Planetary Solutions, San Diego, CA 6/08 – present

Co-founded small business to develop utility-scale solar thermal electric power generation systems. Oversee R&D including system design, prototyping and test of new concepts. Developed budgets, negotiated contracts, acquired equipment and planned finances for company projects.

Senior Consultant ARES Corp, Louisville, CO 6/11 – present

Led integration and test of the first spacecraft of an 18-satellite commercial constellation as the Spacecraft I&T Lead and Bus Design Integrated Product Team Lead in a continuation of my previous role at Sierra Nevada Corp. Oversaw launch site testing and on orbit operations as S/C Lead.

Principal Systems Engineer Sierra Nevada Corp/MSI, Littleton, CO 11/02 – 6/11

Led development of an 18-satellite commercial constellation as the Spacecraft Chief Engineer and Integrated Product Team Lead for Spacecraft #1 assembly, integration and test. Responsible for all elements of systems engineering including design, test, component specification and vendor selection.

Managed the Systems Engineering, Integration and Test, and Avionics and Software departments of MSI. Prepared performance reviews, hired and fired, oversaw daily timekeeping, trained younger engineers and interns, communicated company policy and brought engineering concerns to upper management. Prepared departmental budgets, priced programs for proposals and tracked earned value.

Led the integration and test team for an AFRL research spacecraft. Served as Chief Engineer for the spacecraft bus for an AFRL/ORS program, supporting all phases of program execution from initial concept, through design, fabrication, integration and launch and flight operations support. Served as the technical systems lead for an AFRL 3 satellite constellation, providing coordination of design issues across all major subsystems.

President Deep Space Enterprises, Oceanside, CA 2/01 – 11/02

Founded aerospace consulting company focused on serving the need for rapid turn around systems engineering services for the low-cost and microsatellite niche markets. Conducted an initial definition and assessment of infrastructure needs for a new launch site development effort based on Soyuz-derived vehicle including data communications and tracking architecture. Provided systems engineering support to a university satellite including test facility evaluation and negotiation, and vendor interface support. Acted as systems engineer for an international satellite project in its conceptual phase. Supported non-profit education missions from high altitude to lunar orbit.

CHIPSAT Chief Engineer Sierra Nevada Corp/SpaceDev/ISS, San Diego, CA 9/97 – 7/01

Served as Systems Engineer for Mars and asteroid spacecraft development programs. Promoted to Chief Engineer for the CHIPSAT program in charge of overall technical direction of 8-person scientific satellite engineering team and coordination with subcontractors. Developed new systems engineering practices and procedures including plans for system integration and test and standard operating procedures. Led hardware test effort and performed thermal stress screening, thermal vacuum, and thermal cycling tests in chambers that I built or modified. Coordinated documentation

and configuration tracking and control efforts. Spearheaded hardware procurement and subcontractor and customer interface tasks. Co-wrote multiple proposals, five of which resulted in new contract awards totaling \$6.3M, with up to \$500,000 in potential company performance bonuses. Performed system-level trades for International Space Station's Crew Return Vehicle.

Program Manager/ Bus. Dev. AeroAstro, Longmont, CO 8/95-9/97

Managed 11 person, \$3M liquid-fueled rocket program (PA-X) including budgeting, scheduling, purchasing, property tracking, USAF and DCAA reporting, FAR compliance, meetings, team coordination, and corporate resource coordination. Researched FAR and recommended new billing practices, which increased corporate cash reserves by \$75,000. Utilized MS Project software for extensive program planning and tracking. Jointly responsible for 7 winning proposals to USAF, NASA, and Universities totaling over \$2.4M in new business. Coordinated marketing efforts of the other employees in this arena as Director of New Business Development for two years. Directed marketing of new nano-satellite and developed thermodynamic model of the propulsion system.

Staff Engineer TDA Research, Wheat Ridge, CO 5/92-10/93&5/94-8/95

Performed and analyzed heat transfer experiments for endothermic fuels research. Developed 2D heat transfer, fluid flow and chemical reaction model for novel endothermic fuel reactor/heat exchanger, saving \$25,000 in custom software. Co-authored winning proposals totaling \$2.1M in new business from NASA and USAF. Designed reactor for NREL using COTS components and designing for low-cost manufacturing resulting in a savings of \$200,000 compared to the original budget. Designed low-cost heat exchanger for the International Space Station's Trace Contaminant Control System.

Research Assistant CU Boulder 7/93-5/94

Led a successful NASA STEDI Phase I proposal effort of 15 students for a satellite with a \$4 million budget and a three year schedule. Supervised a team of three engineering students designing, building, and launching science instruments for a suborbital rocket payload. Key player in electronic integration and testing of payload systems.

Member Tech. Staff The Aerospace Corp., El Segundo, CA 6/90-9/90 & 4/91-8/91

Developed and ported six degree of freedom FORTRAN program for low thrust orbit trajectory optimization using equinoxial orbit elements. Performed trajectory analysis for the ELITE program, designing optimized trajectories which improved fuel performance by up to 10%.

Research Assistant UCLA 11/90 - 3/91

Wrote trajectory planning code for a manned Mars mission which used low-thrust nuclear-electric propulsion. Helped design a terrain profiler for a Mars Rover instrument.

OTHER U.S. Citizen, current DoD secret security clearance, Conversational German, C/C++, Perl, JAS, FORTRAN, BASIC, LabView, MS Office, MS Project.

PUBLICATIONS 12 technical publications for a variety of aerospace conferences.

EDUCATION MS in Aerospace Engineering from the University of Colorado at Boulder, GPA 3.7. UCLA, BS in Aerospace Engineering, GPA in Major 3.2. Advanced to Ph.D. Candidacy at CU

HONORS SNC "Star" Award for ORBCOMM, SNC "Star" Award for DSX, Commanders Coin for TacSat-2, AIAA Space Systems Award for TacSat-2, Five MSI "Awards of Excellence"