Job Description: Optical Engineer

Work Description: The Optical Engineer ("OE") participates in a team role in the Design & Manufacturing of our Satellite Telescope products for earth imaging and laser communications. The OE is principally responsible for developing optical-mechanical designs and conducting analysis that satisfy customer-desired performance. Such designs must be tolerated for fabrication & assembly and analyzed for performance in the presence of the environmental conditions demanded by the application. Optical Engineers must function in a multi-disciplinary capacity and be able to describe the impact of real world error sources to optical performance. This includes opto-mechanical and or electro-optical analysis to predict final performance both in the laboratory as well as “on-station” in space or in flight. Optical analysis is applied throughout our manufacturing and assembly process to understand and ensure that models accurately describe true performance.

The OE will play a key role in planning and participating in the execution of custom projects as well as in making continual improvements to standard production that increase quality and performance. Engineers are required to determine and execute assembly and metrology processes from customer requirements, and then translate into executable methods, and procedures in order to complete successful projects. Engineers also function in the role of project leaders - making sure that projects are implemented correctly, on-time, on-budget, and meet all quality requirements. In a project leadership role, engineers are required to interface directly with customers and suppliers advising on progress, making supply chain decisions and managing the process of problem solving and risk mitigation. Engineers are “hands-on” at AOS, and often are required to operate advanced equipment and personally finish product on the floor and in the lab.

The typical duties listed below are neither exhaustive, nor are they presented in any particular order of priority.

1. Conceive and analyze optical designs for new and modified satellite telescopes for earth imaging and laser communications. Compare design trade-offs with manufacturability, cost, mass, and key performance metrics.
2. Develop procedures that will enable manufacturing and testing of the designed systems.
3. Interface with mechanical and electrical specialists to complete systems modeling, analysis and methods of performance verification.
4. Provide quantitative interpretation and analysis, modeling, and software-based solutions to solve problems, enhance operations and advance capability.
5. Elevate the capability of the organization as a whole through training and mentoring other employees.
6. Prepare and review white papers, test plans, acceptance test procedures (ATPs), and first article test procedures (FATPs)
7. Provide technical support to our partner companies as needed in Japan and Europe.
8. Prepare publications that can be presented at strategic symposiums and conferences that will promote the capabilities of the company.
9. Participate in the decision process for technology / equipment selections

Requirements & Qualifications:

Proficient with Optical Design Software and methods of optical design & analysis

Degree in Optical Engineering preferred, but other engineering or scientific degrees with both experience and record of performance considered.
There are (3) levels of Engineering at AOS: Associate, Engineer, and Senior Engineer. Candidates with an Associates level degree are eligible for the Assoc. position. Candidates with suitable experience and or a bachelor’s, Masters, or PhD in an applicable technical field are eligible for advanced positions. Additional qualifications include quantitative reasoning skills, self-motivation, ability to "self-learn" through individual study of written or on-line resources, technical papers, or other sources to enhance skills and solve new problems. Engineers must be proficient in the use of computers to analyze problems efficiently. Engineers must have the ability to communicate clearly and logically to other employees in both verbal and written form. Engineers must have a sound foundation in mathematics, and be able to implement statistical methods for problem solving. Engineers must be able to collect, process, and represent data graphically. Successful engineers must have a natural curiosity combined with the desire to optimize methods that continually lead to improvements in quality and efficiency.

**Term & Hours:** Full-time permanent position consisting of a minimum 40-hour work-week on-site. Additional work hours may be required depending on current work demand and proficiency of the individual to complete tasks in a timely fashion.

*Aperture Optical Sciences Inc. provides innovative custom precision optics and systems to customers worldwide. We develop and employ advanced technology for making satellite telescopes, aspheric mirrors, SiC optics, optics for high-energy lasers and engage in developmental processing of advanced materials. We are a United States private company founded in 2010.*