
Senior Optical Systems Engineer

Space Division

LOCATION

St. Louis, MO

RANGE

\$95,000-\$110,000/yr

THE COMPANY

Impossible Sensing develops next-generation optical sensing applications for deployment and operation in the most extreme terrestrial and extraterrestrial environments. We strive to foster a creative, collaborative, and inclusive work environment that combines the best minds with the most innovative optoelectronics and data analytic technologies. We're looking for candidates interested in projects ranging from planetary exploration to deep ocean survey and everywhere in between to join our growing team in St. Louis, MO. We offer a competitive salary, a flexible work environment, 4wks PTO to start and other great benefits.

THE POSITION

Act as the lead Systems Engineer (SE) for the Space Instrument division and manage projects in the implementation and execution of the company's long-range R&D strategies including grant proposals, contract bids, responses to NASA flight AOs, and similar opportunities. Lead all optical designs for the company.

Work to develop and implement a Space Instrument division that serves company objectives by leading proposal efforts and working directly with the CEO to guide all aspects of Impossible's Space activities, from conception to Flight program implementation and managing personnel accordingly. Potential to develop into new position, Space Instrument Division Manager.

RESPONSIBILITIES

- Develop optical sensing instruments for space and Earth environments, combining knowledge of optical systems including imagers, spectrometers, lasers, and other illumination and detection systems. End-to-end involvement in project life cycle from concept definition to securing funding, project implementation and management, and science plan development and deployment. Interface with optical, mechanical, and electrical engineering teams to complete systems modeling, analysis, and methods of performance validation.
- Aid in project implementation, identifying risks, and preparing deliverables for company projects. Compare design trade-offs against technical, schedule, and cost factors. Over project lifetimes, develop and direct SE tasks including requirements definition, system architecture, interfaces, and developing integration and testing plans and procedures.
- Advance applied research programs that are synergistic with the mission of the company to develop cutting-edge solutions in sensing applications, including a compact LIDAR program, in situ sensing program using Raman and LIBS, and Lunar technologies program (ISRU, CLPS)
- Lead proposal-writing efforts on behalf of the company to secure new funding and applied research opportunities. The potential research areas are broad, and include all aspects of data analytics, sensor development, and robotic perception. These opportunities include but are not limited to NASA ROSES/other (IIP, PSTAR, PICASSO, MatISSE, PRISM, LuSTR), NASA SBIR, other agency SBIR/other proposal opportunities.
- Collaborate with the CEO and scientists and technicians inside and outside of the organization to develop technical solutions for complex challenges. Outdoor fieldwork and travel both within the United States and internationally may be required to validate technical solutions in real-world environments.

IMPOSSIBLE

-
- The Senior Optical Systems Engineer will be required to work independently on individual research projects and present findings to the team and in conferences/meetings as well as be an integral team member for larger responsibilities.
 - Develop and maintain dynamic relationships with counterparts at partner and collaborator lab facilities related to the scope of work. Top candidates will be technically agile, have an ability to learn and implement novel and innovative procedures effectively and have a sound understanding of relevant scientific approaches. Research will involve interactions with Impossible staff and outside partners.
 - Participate as required in major project milestones, such as critical integration and test activities, environmental testing, and strategy meetings with executive team as required.

REQUIREMENTS

- US Person (Citizen or Permanent Resident)
- PhD degree in Space Physics, Applied Physics, Optics or other Physics degree related to space science and/or relevant scientific field
- Experience in optical design (Zemax, CODE V, others), assembly, and testing
- 5+ yrs experience in a relevant scientific field (lab experience required)
- 3+ yrs experience in Systems Engineering of hardware systems Proficient with a variety of computer aided design, analysis, and control
- Ability to work in dynamic environments with novel concepts and a wide range of personnel
- Outstanding verbal and written skills and experience generating data-driven reports
- Ability to interpret relevant data and apply it to innovative processes

IDEAL CANDIDATES

- An ideal candidate will have demonstrated applied research experience in challenging atmospheric, terrestrial, or space environments. Applicants should have a PhD in a technical field, more than 5 years of post-graduate experience, plus a demonstrated history of successful research and/or development with appropriate publications and data products.
- Candidates should be able to express a clear vision for their proposed work on new and innovative technologies, and an understanding of how to apply and work with external funding agencies
- Experience writing proposals in an academic and/or industrial setting.
- Familiarity in working with NASA and/or on NASA-funded projects.