



**One Technology Drive.
Uxbridge, MA 01569
Phone (401) 762-5100 * * Fax (401) 762-5111**

JOB DESCRIPTION

Senior Scientist

DEPARTMENT:	Research & Development	PAYROLL CODE:	
REPORTS TO:	Chief Technology Officer	PREPARED DATE:	ASAP
FLSA STATUS:	Exempt	APPROVED BY:	
STATUS	Full-Time	APPROVED DATE:	

SUMMARY: The Senior Scientist is responsible for leading the research and development of commercial laser systems, especially RF excited CO₂ lasers. This individual will be working closely with other members of our small interdisciplinary team developing innovative laser products and related technologies. The candidate must be a fast learner, strong problem solver, and exceptional communicator. This position will require you to translate ideas into high level design concepts and prototypes. The candidate must have a proven ability to understand complex problems and requirements as described by customers, product managers, and scientific and engineering staff.

Founded in 2007, Iradion Laser, Inc. is a global company with headquarters in Uxbridge, MA. Iradion develops and manufactures innovative ceramic core CO₂ lasers for diverse materials processing applications. The company is growing at CAGR of 46% and is expanding the R&D team to sustain our pace of technology advancement.

The company's vision: "Become the leading global provider of RF driven sealed CO₂ lasers."

ESSENTIAL DUTIES AND RESPONSIBILITIES: (Other duties may be assigned)

- Drive initiatives associated with the laser engineering aspects of state-of-the-art CO₂ laser products and subassemblies. Lead the concept definition, requirements definition, new technology assessments, and evaluation of alternative technical solutions.
- Evaluate laser performance at the component and system levels via both modeling and hands-on experimental methods. Lead the revision of designs to minimize changes in later project phases and perform system integration and test activities.
- Develop and execute laser component reliability and qualification tests, especially accelerated aging, high stress conditions, and test to failure. Use reliability test data to predict product lifetime and to advance product design for greater reliability.
- Analyze and present test data. Discuss results with technical staff, external partners, and customers.



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- ❑ Provide leadership to project teams in the preparation of engineering inputs, cost estimates and schedules for proposals.
- ❑ Promote scientific rigor and individual skills advancement within the company's technical team.
- ❑ Define and drive optics and lasers best practices with all the company's staff.
- ❑ Meet deadlines, sustain superior personal task management, and deliver consistent high performance.

OTHER SKILLS AND ABILITIES:

- ❑ High proficiency with Matlab, Excel, and other computational software.
- ❑ Can design and build complex experimental apparatus from scratch based on high level requirements.
- ❑ Self-reliant in sourcing equipment and components for experiments and prototype construction.
- ❑ Efficient in processing experimental data and writing concise reports.

EDUCATION AND/OR EXPERIENCE:

- ❑ Master's degree (PhD preferred) in Optics, Physics, Electrical Engineering, or a closely related field.
- ❑ 5+ years of experience in optics and laser design or plasma discharge systems. Experience in RF excited CO2 lasers preferred.
- ❑ Experience in execution of engineering documentation, from design reviews and requirements documents to failure analysis and risk mitigation.

LANGUAGE SKILLS:

- ❑ Ability to read, analyze and interpret scientific articles, white papers, and texts.
- ❑ Ability to write reports, business correspondence, and work instructions.
- ❑ Ability to effectively present information and respond to questions, inquiries or requests for technical information from internal staff or customers.

OTHER QUALIFICATIONS:

Physical Demands:	The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. <ul style="list-style-type: none">❑ Stand over 1/2 of the time while working in the laboratory.❑ Walk under 1/2 of the time.❑ Use hands to finger, handle, or feel 1/3 to 2/3 of the time.❑ Reach with hands and arms 1/3 to 2/3 of the time.❑ Talk or hear 1/3 to 2/3 of the time.
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	<ul style="list-style-type: none"><input type="checkbox"/> Lift up to 10 pounds under 1/3 of the time.<input type="checkbox"/> The above physical demands include duties such as working in a laser laboratory, sitting at a work station using a computer, making and receiving phone calls, moving within the company facility to communicate with other departments.
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Work Environment:	<p>The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.</p> <ul style="list-style-type: none"><input type="checkbox"/> Working conditions are normal for an office environment and may require occasional weekend and/or evening work.<input type="checkbox"/> Moderate noise (examples: business office with computers and printers, light traffic and visits to factory).<input type="checkbox"/> Some travel (10%-25%) to various Company regions, trainings, etc. may be required during the year.
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