

NANVOX

Contact:

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Nanovox LLC – Optical Metrology Senior Staff Scientist

Posting Date: September 2025

Location: Corvallis, OR

Reports to: Vice President of R&D

Status: Full-Time, Salaried

Works With: Optical designers, materials scientists, system engineers, inkjet print manufacturing engineers, and other departments as needed

Requirements: Must be either a US citizen or green card holder.

Contact Information

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Position Overview

Nanovox is seeking a Senior Staff Scientist to lead research and development in optical metrology for advanced gradient refractive index (GRIN) optics—a transformative technology in optics and photonics. This is an exceptional opportunity to make a major contribution to next-generation optical systems. The successful candidate will design, develop, and implement software and hardware tools to measure and characterize additively manufactured (AM) GRIN

optics across the visible to short-wave infrared spectrum. GRIN optics feature continuously variable refractive indices, enabling correction of geometric and chromatic aberrations within a single element—significantly reducing the number of components in optical systems. Our AM process enables overnight fabrication of complex optical designs at costs that outperform traditional high-quality optics. In this role, the Senior Staff Scientist will collaborate with internal Nanovox teams and external customers to identify, specify, automate, and improve optical metrology equipment and processes. Responsibilities include conceptualizing, modeling, programming, empirical testing, and documenting optical performance parameters related to 3D optical elements, their materials, and the inkjet print manufacturing process.

Essential Duties and Responsibilities

- Define and specify optical metrology tools and processes for characterizing 3D GRIN lenses, associated materials, and manufacturing workflows
- Develop automation and scripting for measurement routines to improve efficiency and repeatability
- Perform advanced optical measurements, including:
 - Point Spread Function (PSF) analysis
 - Focal plane characterization
 - Digital holographic pupil-plane and 3D GRIN distribution reconstruction
 - Power Spectral Density (PSD) measurements
- Apply orthogonal basis sets (e.g., Zernike polynomials) to evaluate wavefront aberrations, and 3D index gradients
- Conduct statistical analysis of measured results to ensure accuracy and reliability
- Assess GRIN lens optical performance quality and identify areas for improvement
- Model optical elements and manufacturing processes to predict and optimize performance
- Design and execute experiments, develop computational models, and produce clear, detailed reports documenting hypotheses, results, and next steps
- Generate weekly data products and concise summaries for internal review
- Support proposal development for commercial and government customers

- Maintain high standards of integrity, safety, and cleanliness in laboratory operations
- Communicate findings clearly and regularly to the VP of R&D and cross-functional teams