VELOX RESEARCH

OPEN NOW, PRIORITY HIRE

Senior EO/IR Physicist / Systems Engineer

LOCATION	Reston, VA, with time at customer and test sites
TYPE	Full time
CLEARANCE	Active Top Secret / SCI (U.S. citizenship required)
START	Target start December 2026
EXPERIENCE	About ten years
EDUCATION	MS or PhD preferred

Velox Research is hiring a senior EO/IR physicist to take day-to-day technical delivery on three running programs (ARCTIC, Neptune, Omni) so our principal engineer can move on to new sensor work. You own the physics of the sensor, the models that predict its performance, and the bench and field tests that prove it, and you write it up for the customer. Velox is a small, cleared company; the senior engineers do the work themselves.

RESPONSIBILITIES

- Own end-to-end sensor performance: scene and target signatures, atmospheric transmission (MODTRAN-class), optics throughput, MTF and stray light, detector noise terms, and the SNR, NEDT and range performance that follow from them.
- Run the trades: VIS/NIR/SWIR/MWIR/LWIR band selection, aperture and f-number, focal plane choice (Si CMOS, InGaAs, InSb, HgCdTe, T2SL, microbolometer), cooled versus uncooled, integration time and frame rate, against a SWaP-C budget.
- Take designs through test: radiometric calibration against blackbodies, NUC and bad-pixel maps, MTF and distortion measurement, spectral response, environmental test, and field collections with instrumented ground truth.
- Write the deliverables: performance models, test plans and reports, requirements and ICDs, technical volumes and customer briefs, then present and defend them.
- Work with our software engineers on the processing chain: calibration pipelines, image registration, detection and tracking, and the data products the customer uses day to day.
- Lead a small team and subcontractors on your tasks and keep them on schedule.

QUALIFICATIONS

- About ten years in EO/IR sensor physics or systems engineering, with deliverables a government or prime customer accepted from you personally.
- MS or PhD in physics, optical engineering or electrical engineering preferred; a BS with the right record is fine.
- Radiometry and detector physics from first principles: a noise budget and a range prediction you can derive, then validate on the bench.
- Optical and scene modeling tools: Zemax OpticStudio or CODE V, MODTRAN or similar, NV-IPM or your own equivalent, and MATLAB or Python for models and data reduction.

- Lab experience with blackbodies, collimators, integrating spheres, spectroradiometers, cooled and uncooled IR cameras, and laser sources.
- An active TS/SCI clearance. For an exceptional candidate who is clearable we will consider sponsorship.

PREFERRED

- Hyperspectral, multispectral or polarimetric imaging; laser systems (lidar, designators).
- Image quality metrics (NIIRS, GIQE) and stray-light analysis (FRED, ASAP, LightTools).
- Airborne or space payload experience; proposal writing.

TO APPLY

Email a résumé and a short note on what you want to work on to info@veloxresearch.com with the role in the subject line. Velox Research is an equal opportunity employer. No recruiters, please.

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