



HOPEWELL DESIGNS, INC.
ENGINEERING, MANUFACTURING, & SERVICE

Senior Research Scientist

Position Overview

We are seeking a Senior Research Scientist with strong expertise in radiation physics, shielding, and dosimetry to support the development, evaluation, and optimization of radiation-based products and systems. This role combines applied research, hands-on testing, and engineering collaboration, offering opportunities to influence product design, support customer applications, and contribute to published technical work.

The ideal candidate is a technically rigorous scientist or engineer who enjoys solving real-world radiation problems and communicating complex technical concepts clearly to both technical and non-technical audiences.

Key Responsibilities

- Perform radiation physics analyses to determine dose delivery to materials, dosimeters, and devices under test using analytical methods and modeling tools.
- Conduct radiation shielding evaluations to verify effectiveness, ensure safety, and meet project requirements.
- Develop practical shielding solutions for beta, gamma, x-ray, and neutron applications, considering performance, manufacturability, and compliance constraints.
- Conduct research on radiation effects in devices and materials, including experimental testing and data interpretation.
- Perform in-house testing and characterization of x-ray and radiation systems, including half-value layer (HVL) measurements and spectral analysis.
- Evaluate existing products and systems to identify opportunities for optimization and performance improvement.
- Collaborate closely with engineering, product development, and manufacturing teams throughout the product lifecycle.
- Author technical reports, white papers, and peer-reviewed publications for internal use, customer support, sales and marketing, and national or international publication.
- Support sales and marketing efforts by providing technical input for proposals, brochures, and customer-facing documentation.
- Provide consulting support and technical expertise in radiation physics and shielding applications as required.
- Serve as a subject matter expert in radiation physics and shielding design.

Required Qualifications

- PhD or MS in Nuclear Engineering, Medical Physics, Health Physics, Physics, or a closely related scientific or engineering discipline.
- Strong foundation in radiation physics, dosimetry, and shielding theory.
- Experience working with irradiator systems (beta, gamma, x-ray, neutron).
- Demonstrated ability to perform analytical calculations and interpret experimental data.
- Strong technical writing skills with experience producing formal reports, technical papers, or publications.

Preferred Qualifications

- Experience with radiation transport or shielding codes (e.g., MCNP, GEANT4, FLUKA, or equivalent).
- Experience in an applied research, industrial, or product-development environment.
- Ability to communicate effectively with multidisciplinary teams, customers, and non-technical stakeholders.

Why Join Us

- Work on applied radiation physics challenges with direct impact on real products and customers.
- Balance scientific research with hands-on testing and engineering collaboration.
- Opportunities to publish technical work and influence product development strategy.
- High level of technical ownership and autonomy.
- Collaborative environment that values scientific rigor, innovation, and practical solutions.

Submit a resume or CV to careers@hopewelldesigns.com.