

SUBCRITICAL SYSTEMS · JOB OPPORTUNITY

Director/Head of Radiochemistry & Isotope Production



Department	<i>Research & Development</i>	Posted	<i>September 2, 2026</i>
Location	<i>Austin, TX</i>	Employment	<i>Full Time</i>

ABOUT SUBCRITICAL SYSTEMS

Subcritical Systems, Inc. is a venture-backed startup in Austin, Texas, developing accelerator-driven systems. We are the only U.S. commercial manufacturer of accelerator cavities. We aim to do for accelerator cavities what SpaceX did for rockets and commercialize them for power production, medical isotopes, semiconductor manufacturing, and waste transmutation.

We are developing the Energy Amplifier, a novel nuclear fission system in which a particle accelerator drives a subcritical core. The design makes meltdown physically impossible and supports clean power production. Its inherent safety provides a more streamlined licensing path. Our founding team includes deep-tech entrepreneurs who have built several multibillion-dollar companies and former U.S. national laboratory leaders with extensive accelerator and nuclear expertise.

We are expanding our team as we advance licensing, regulatory submissions, and construction of our first Energy Amplifier. Learn more at subcritical.com.

ROLE SUMMARY

The position will lead the development, commissioning, and operation of Subcritical Systems' accelerator-based radioisotope production capability. The role is responsible for establishing an integrated isotope production program spanning target development, irradiation, radiochemical processing, purification, quality control, and delivery of medical and industrial radioisotopes. This individual will build the radiochemistry and isotope production strategy, develop cGMP-quality processing capabilities, and ensure the program is aligned with emerging radiopharmaceutical demand and clinical development pipelines in North America, Europe, and Asia.

KEY RESPONSIBILITIES

- Lead the development and operation of a proton accelerator-based radioisotope production program.
- Define the isotope production roadmap based on technical feasibility, market demand, radiopharmaceutical development pipelines, and clinical requirements.
- Develop irradiation, target handling, radiochemical processing, purification, and recovery workflows for medical and industrial isotopes.
- Lead the design, specification, installation, commissioning, and qualification of hot cells, radiochemistry laboratories, and associated isotope-processing infrastructure.
- Design and implement cGMP-quality chemical separation and purification processes for radioactive materials.
- Establish robust, reproducible production workflows covering target receipt, irradiation, transfer, dissolution, separation, purification, formulation, QC, and waste handling.
- Partner with accelerator physics and engineering teams to optimize beam energy, current, irradiation conditions, target design, cooling, and isotope yield.
- Develop and maintain isotope production models incorporating nuclear reaction cross-sections, radionuclidic purity, decay, production yield, and processing timelines.
- Establish quality systems, batch documentation, analytical methods, specifications, and release criteria appropriate for radiopharmaceutical precursor and isotope production.
- Ensure radiochemistry operations comply with applicable radiation safety, environmental, GMP, transportation, and regulatory requirements.
- Build and lead a multidisciplinary team spanning radiochemistry, isotope production, analytical chemistry, targetry, quality, and operations.
- Maintain a detailed understanding of emerging radiopharmaceutical clinical programs and translate future isotope demand into production strategy and capacity planning.

QUALIFICATIONS

Required

- PhD or advanced degree in Radiochemistry, Nuclear Chemistry, Chemistry, Chemical Engineering, Nuclear Engineering, or a closely related discipline.
- 8+ years of experience in radioisotope production, radiochemistry, radiopharmaceutical manufacturing, or accelerator-based nuclear science.
- Demonstrated experience producing radioisotopes using proton linear accelerators, cyclotrons, or comparable charged-particle accelerator systems.
- Experience leading an isotope production program within an accelerator, national laboratory, academic, commercial, or radiopharmaceutical facility.
- Demonstrated experience designing and conducting chemical separations and purification of radioactive materials.
- Hands-on experience developing and operating radiochemical processes within hot cells or shielded processing environments.

- Strong understanding of radionuclide production pathways, target chemistry, nuclear reaction cross-sections, decay chains, radionuclidic purity, and isotope recovery.
- Experience establishing controlled, documented, and GMP-quality radiochemistry workflows.
- Strong understanding of radiation safety, contamination control, radioactive material handling, and radioactive waste management.
- Demonstrated ability to lead multidisciplinary technical programs from laboratory development through operational production.
- Experience scaling radioisotope production from research quantities to routine commercial or clinical supply.

Preferred

- Deep understanding of ongoing and impending radiopharmaceutical clinical trials and associated isotope demand across North America, Europe, and Asia.
- Experience with medically relevant isotopes used or emerging in diagnostic and therapeutic radiopharmaceuticals, including alpha-, beta-, and positron-emitting radionuclides.
- Experience supporting GMP manufacturing, IND/CTA clinical programs, or commercial radiopharmaceutical supply chains.
- Familiarity with FDA, EMA, ICH, USP, Ph. Eur., and other regulatory frameworks relevant to radiopharmaceutical manufacturing and radioactive materials.
- Experience with target design, targetry, remote handling, automated separation modules, analytical radiochemistry, and isotope QC.

BENEFITS

We offer health, dental, and vision insurance.

LOCATION & WORK POLICY

This role is fully in person in Austin, Texas. Our facility is located next to Austin Airport.

HOW TO APPLY

Apply through LinkedIn, or email your resume and a brief cover letter to careers@subcritical.com. Use "Director/Head of Radiochemistry & Isotope Production - Application" as the subject line. Applications are reviewed on a rolling basis.