

**BREAKING OUT OF THE CLINIC:
NONTRADITIONAL MEDICAL
PHYSICS CAREERS**

Transitioning Out of the Clinic

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Outline

- Types of non-clinical positions for clinical physicists to consider
- Is supplemental training needed?
- Strategies to search for non-clinical positions while working in the clinic
- Approaches for applying and interviewing
- Examples

My experience transitioning out of the clinic

1986-2002	Clinical physicist in radiation oncology department of community hospital
2002-2012	Medical inspector and license reviewer in NRC Region I office
2012-2015	Member of NRC headquarters Medical Radiation Safety Team
2015-2017	Radiation Safety Specialist in IAEA Radiation Protection of Patients Unit

Types of non-clinical positions for clinical physicists to consider

- Industry
- Academic research and education
- Radiation safety and health physics
- Regulation
- International organizations

Is supplemental training needed?

M.S. in medical physics and clinical experience might be sufficient, but consider the need for:

- Industry: programming languages, statistical concepts (e.g. statistical process control), business management, regulatory standards
- Academic research: doctoral degree and research post-doc
- Radiation safety: health physics courses, possible CHP certification
- Regulation: regulatory standards
- International organization: knowledge of the organization's programs and international standards

Strategies to search for non-clinical positions

- Take part in activities of the specialty field & organization you'd like to join
 - Read their publications
 - Attend meetings and conferences, be visible
- Networking
 - Social media
 - Informational interviews
 - Job shadowing
 - Find a mentor
- Identify resources for position announcements
 - Personal contacts (hidden job market)
 - Published job postings

Approaches for applying and interviewing

Before applying:

- Learn about the skills required in the non-clinical position
- Identify matches with your current skills and experience
- Remember to include soft skills, like communication and organization
- Update your résumé or c.v. in a format that highlights the skills used in your current and past positions. Emphasize the skills required in the new job.
- Prepare specific anecdotes about your transferable skills and how they demonstrate your ability to do the new job. Use these in a cover letter or response to required essay questions.

Approaches for applying and interviewing

Before interviewing:

- Review your anecdotes about transferable skills
- Try to arrange practice interviews with networking contacts
- Be ready to demonstrate your understanding of the new organization's work and how you can add value
- Be ready to discuss the reason for your change to a non-clinical career and any actions you have taken to upgrade your skills

NRC employment of medical physicists

- Regional office inspectors and license reviewers
- Headquarters Medical Radiation Safety Team
- Headquarters Office of Research
- Headquarters Rulemaking



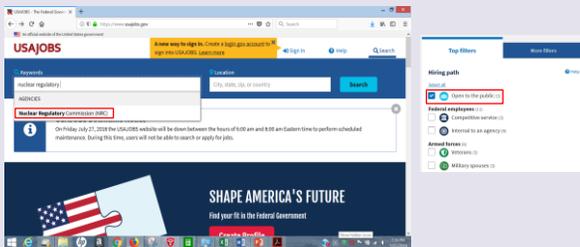
NRC supplemental training

- Knowledge of regulations, regulatory programs, and major documents
- Helpful to have experience as medical Radiation Safety Officer, involvement from medical licensee perspective in implementing new regulations, auditing, event response, and inspections
- For some positions, including regional inspectors/license reviewers, the NRC provides a formal training program to employees

NRC networking

- Sign up for NRC medical listserv at: https://scp.nrc.gov/mls_subscribe.cfm
- Periodically review information on Medical Toolkit webpage at: <https://www.nrc.gov/materials/miau/med-use-toolkit.html#mls>
- Participate in meetings of the ACMUI and other public meetings (by webinar or in person)
- Respond to requests for public comment on proposed documents and regulations

NRC resource for position announcements <https://www.usajobs.gov>



Approach for NRC job application

- Online application at USA Jobs website, need to key in all information including résumé/c.v. in standardized format
- Each job has specified KSA elements (Knowledge/Skills/Abilities)
- Must complete "vacancy questions," essay questions describing your knowledge, skills, and abilities
- Provide a detailed response, using the same terminology as the question and addressing each listed element
- Incorporate anecdotes about your transferable skills, including one or two anecdotes in the response to each question.

Example vacancy question #1

Knowledge of the principles and theories in the field of health physics, including but not limited to, radiation physics, radiation biology, internal and external dosimetry, radiation detection and measurement, environmental pathway analysis, and/or medical health physics.

(Describe specific education, training, and experience which demonstrate in-depth knowledge of health physics including internal and external dosimetric models.)

Example vacancy question #2

Demonstrated ability to establish effective working relationships with peers, co-workers, and various levels of management both inside and outside the agency.

(Describe your experience with collaborative efforts in a diverse, interdisciplinary team. Describe opportunities where you worked as part of a team and in which you had the responsibility for directing a team. Describe experiences involving your coworkers and individuals from other organizations. Describe experiences dealing with various levels of management both within and outside your current organization. Include a discussion of challenging situations including both technical and personal complications which had to be resolved.)

Example vacancy question #3

Demonstrated ability to communicate clearly and effectively, both orally and in writing.

(Describe specific experience, training, and accomplishments that demonstrate your communication skills. Describe in detail your ability to (1) lead complex technical discussions and consolidate complex and diverse opinions into concise presentations, and (2) formulate balanced and well-founded recommendations. Describe the various levels of individuals you interact with and for what purposes. Describe presentations of formal training you delivered and the topics. Provide examples of written products.)

IAEA employment of medical physicists



Division of Radiation, Transport & Waste Safety:
 - Radiation Safety & Monitoring
 - Radiation Protection of Patients

Division of Human Health:
 - Nuclear Medicine & Diagnostic Imaging
 - Applied Radiobiology & Radiation Therapy
 - Dosimetry & Medical Radiation Physics

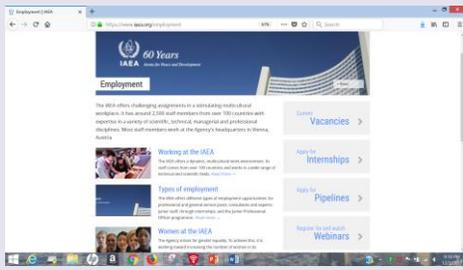
IAEA supplemental training

- Knowledge of IAEA programs, international regulatory standards and terminology, and major documents
- Helpful to have previous experience in IAEA activities (meeting attendance, review of proposed documents, teaching in an IAEA course, serving on an international review team)

Two pathways for IAEA position announcements and hiring

- IAEA-funded positions: interns and professional staff
- US-funded positions administered by Argonne National Lab IAEA program office: interns, junior professional officers (JPOs), and cost-free experts (CFEs)
- Intern positions up to one year in duration, may apply up to one year post-degree completion
- JPO positions one to two years in duration, must be under age 32
- CFE positions typically two years in duration
- Professional staff positions three to seven years

IAEA jobs webpage for IAEA-funded positions <https://www.iaea.org/employment>



Current IAEA-funded opportunity for diagnostic physicist

Medical Physicist (Diagnostic Radiology)(P4)-(2018/0392 (012155))

Department: IAEA, Division: Nuclear Physics, Section: Nuclear Physics
 Position: Nuclear Physics, Section: Nuclear Physics, Division: Nuclear Physics
 Job Number: 2018/0392 (012155)
 Closing Date: 2018-08-31, 15:00:00
 Location: Vienna, Austria
 Contract Type: Fixed Term - Single
 Position Number: 1189

Organizational Setting
 The Department of Nuclear Physics and the Section of Nuclear Physics are part of the IAEA's Nuclear Physics Division. The Department is responsible for the development and implementation of nuclear physics programmes in member States. The Section of Nuclear Physics is responsible for the development and implementation of nuclear physics programmes in member States. The Section is currently conducting research in the area of nuclear physics and is seeking a Medical Physicist to join the team.

Main Purpose
 The Medical Physicist will be responsible for the development and implementation of nuclear physics programmes in member States. The Medical Physicist will be responsible for the development and implementation of nuclear physics programmes in member States. The Medical Physicist will be responsible for the development and implementation of nuclear physics programmes in member States.

Role
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Functions / Key Results Expected

- Develop and implement nuclear physics programmes in member States.
- Conduct research in the area of nuclear physics.
- Provide technical support to member States.
- Participate in international conferences and workshops.
- Publish research results in peer-reviewed journals.
- Collaborate with other scientists in the field of nuclear physics.
- Provide training and mentorship to junior scientists.
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Argonne National Lab IAEA Program Office <https://international.anl.gov/careers.html#career>



Any questions?

Contact sandygabriel15@gmail.com
