Meet Sarah

Imaging Physicist

Royal United Hospitals Bath
NHS Foundation Trust

Hi, my name is Sarah and I work in the Medical Physics and Bioengineering Department at the Royal United Hospitals Bath (RUH). Find out more about me and what I do below.

What do you do?

I am a registered **Clinical Scientist** and I work as an Imaging Physicist mainly in **Nuclear Medicine**. I am the Lead Physicist for **PET** in the Trust and **Medical Physicist Expert** in this area.

I provide scientific support to the hospital and I look after equipment used to take images of patients. For example, I carry out tests on **PET** scanners. I occasionally test **X-Ray**, **CT** and **MRI** equipment too.

See a word in **bold** and not sure what it means? Check out the glossary on pages 4 and 5

Although I have little direct contact with patients, I seek to give patients the best possible experience; for example, by reducing the number of visits they need to make to have their images taken. I also support colleagues to get the best quality images possible through **image optimisation**.

Veriton Gamma Camera

In addition, I develop new **imaging procedures**. For example, I recently installed a new **Gamma camera** that is the first of its kind in the country.

I deliver radiation safety training to staff to ensure that X-rays are used safely. I also lecture at the University of Bath and supervise students' research projects.

Step into the NHS

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Describe a typical day

I do not really have a typical day. Some days, my diary is booked with lots of appointments. Other days, I could be testing scanners or writing risk assessments and reviewing documents. Quite often, I deal with enquiries as they come in.

What hours do you work?

The department works Monday to Friday, generally 9am – 5pm but there is some flexibility around this to fit with service need. I work part-time (30 hours a week) and work three longer days and one shorter day to fit with childcare.

Radiographer using CT Scanner

How have you had to adapt during COVID-19?

I have had to adapt to working from home. For example, in the past, I would have called into the department if there were a problem but now I often resolve an issue over the phone when I am working from home.

What inspired you to become an Imaging Physicist?

I loved physics at school as there was always a right or wrong answer to a question. I decided to study physics at the University of Bath. It was during this time that I undertook a module in **medical physics** which looks at the application of physics to healthcare. I felt that it demonstrated how physics could be combined with the real world to make a direct and immediate impact and I found this really exciting.

Radiographer using imaging equipment

What qualities should somebody have to become an Imaging Physicist?

You should have a good scientific mind and be good with people. This is a **collaborative** job working with lots of other staff members (**clinical technologists, radiographers, radiologists**.) You should be able to clearly explain physics to others, especially when delivering training to a wide range of people (nurses, undergraduates, apprentices.)

Step into the NHS

What training did you undertake to become an Imaging Physicist?

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After graduating with a physics degree, I took up a medical physicist post at the RUH. In this role, I spent four years training, during which time I studied at the University of Exeter to gain a Masters in Science.

Nowadays, people can get into a career in imaging physics by studying a pure or applied science degree (relevant to the specialism) and then completing the NHS Scientist Training Programme. This is a three-year programme where people complete rotational placements to gain the competencies to become registered with the Health and Care Professions Council and gain an **MSc** in clinical science (**medical physics**) at the same time.

I undertook further study about 10 years ago when I completed a **PhD**. I split my time between studying at the University College London Hospital and working at the RUH. Once I gained my doctorate, I became Lead Physicist for **PET** at the RUH and **Medical Physicist Expert** in this area.

When you were at school, what would you have done better or differently?

I consider myself very lucky as I received good careers advice when I was at school. I had originally decided to study biology, physics and chemistry at A-Level and ignored the advice of my teachers to swap to an A-Level in maths. Six weeks into my studies, I changed my mind, dropped out of biology and studied maths instead. I had to catch-up but I felt this was the right decision because these subject choices set me up well for the future.

What advice or tips would you give somebody interested in becoming an Imaging Physicist?

Getting into **medical physics** can be competitive so try and get work experience (which I understand can be difficult at the moment.)

If you feel that you have missed opportunities to study **medical physics** at university, you should not be put off by this as there are other options. For example, some hospitals might offer the healthcare science practitioner apprenticeship or you could consider a career as a **clinical technologist**.

Step into the NHS

Want further information?

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- ⇒ Visit the **Health Careers** website (bit.ly/3wCN2eM)
- ⇒ Visit the **Institute of Physics and Engineering in Medicine** website (bit.ly/3xxlEz7)
- ⇒ Visit the National School of Healthcare Science website for more details about the **Scientist Training Programme** (bit.ly/3ecQeaN)
- ⇒ Visit **NHS jobs** to search and apply for vacancies at the RUH (www.jobs.nhs.uk)
- ⇒ If you have any other questions or you need this document in an alternative format, please contact us at **ruh-tr.careersengage@nhs.net** or call **01225 824281** or **01225 821542**

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Glossary

Clinical Scientist	Also known as a Healthcare Scientist. They are experts who support clinical staff in the prevention, diagnosis and treatment of diseases. They train by undertaking the Scientist Training Programme (STP) and specialise in a certain area
Clinical Technologist	A person employed to look after and operate technical equipment
Collaborative	The act of working together
CT (computerised tomography)	Also known as CAT (computerised axial tomography.) It is a type of scan which uses X-Rays to generate images of the inside of the body
Gamma Camera	A piece of equipment which is used to produce images of the human body. The patient ingests or inhales a radioactive tracer which gives off gamma radiation. The camera picks up the gamma radiation and this produces an image

Glossary continued

Image optimisation	The act of improving the quality of images taken
Imaging procedures	The process of how to take images using a specific piece of equipment
Medical Physicist Expert	A qualified person who has a lot of knowledge in the field of nuclear medicine
Medical physics	Relating to the application of physics in a healthcare environment
MRI (magnetic resonance imaging)	A type of scan which uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of internal organs
MSc	Also known as a Master of Science. It is a type of post-graduate degree
Nuclear Medicine	A branch of medicine that uses radioactive substances to make images of areas inside the body and is used to treat disease
PET (positron emission tomography)	A type of scan which produces 3D images of areas inside the body
PhD	Stands for Doctorate of Philosophy. Highest level of qualification awarded by universities
Radiographer	Somebody who is trained to use imaging equipment. Therapeutic radiographers also use equipment to treat cancers
Radiologist	A branch of medicine which specialises in using images of the human body to diagnose, treat and manage illnesses
X-Ray	A type of scan which uses radiation to produce an image of the body, such as bones