

# Matt Rutter

## Cardiovascular, respiratory and sleep sciences

Matt Rutter (pictured) was diagnosed with leukaemia when he was 15. A bone marrow transplant saved his life but left him with a serious lung condition. It was the time he spent in the lung function lab at Addenbrooke's Hospital that inspired him to follow a career in respiratory physiology.

He was intrigued by the technology that was used. "But I didn't want to be a person sitting in a room with a computer. I wanted to interact with patients," he says.

He started work at Addenbrooke's in 2002. He explains: "To get accurate test results you have to be good at communicating with people. It gives me a real sense of satisfaction to know I've done a good test."

**“ I wanted to give something back to the NHS because it saved my life. ”**

At 26, he is studying for a degree in clinical physiology and doing research with immediate practical benefits. Matt is one of the people with lung problems who need to have extra oxygen when they fly because pressurised plane cabins contain less oxygen than normal air. Matt suspected that the guidelines which identify those who will need this help might be wrong. After gathering more data, he proved it and was invited to Stockholm to present his research findings to other scientists. Matt is now making a difference every day.



# Eskinder Solomon

## Clinical engineering

Eskinder Solomon (pictured) is planning on a PhD next and has the post of consultant clinical scientist firmly in his sights.

He came to Britain when he was 12 years old from Ethiopia. English was his second language and he had to work very hard to catch up. But, within a decade, he had graduated with a first class degree in medical engineering. Still in his twenties, he is a rising star of his profession.

Eskinder comes from a family of scientists. His mum was also a nurse and he used to go to her hospital and help. He excelled in maths and physics at school and an inspirational physics teacher suggested medical engineering might be the career for him. He hasn't looked back since.

He started out at King's College Hospital, London, gaining an MSc in medical engineering, and became a registered clinical scientist in 2010.

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He works with clinicians to provide technological solutions to medical problems and, in some cases, to develop new devices. Eskinder has recently been working in the respiratory medicine department and with a commercial company to develop a new device that detects when patients snore or stop breathing when they go to sleep.



# Pritee Ruparelia

## Neurosensory sciences

Pritee Ruparelia (pictured) uses her science to help diagnose problems with brain function or nerve disorders through electroencephalographs (EEGs).

EEGs play a vital diagnostic role in a wide variety of neurological conditions, including stroke, dementia, epilepsy and brain injury. Pritee can be asked to perform EEGs on patients of all ages, from tiny premature babies to heart patients in critical care or trauma victims in intensive care, in any of the three university hospitals in Leicester.

Pritee enjoys the constant interaction with patients enormously. But the job also involves analysis of the data obtained from each EEG followed by writing up a technical report. "It's a really good combination," she says of science and people.

“It’s one of those jobs that you don’t really hear about, but when I started doing it, I’d just be going on and on about how wonderful it was to anyone I met.”

“It’s one of those jobs that you don’t really hear about,” says Pritee Ruparelia of her career in neurophysiological measurement. “But when I started doing it, I’d just be going on and on about how wonderful it was to anyone I met.”



# Katharine Kenny

## Medical physics technology

As a trainee healthcare scientist in medical physics, Katharine Kenny's (pictured) job at Oxford University Hospitals NHS Trust includes monitoring patients who have had radionuclide therapy and advising them about safety, measuring x-ray image quality and planning radiotherapy treatments.

"I use my physics knowledge and work with advanced technology, but I'm also rewarded by knowing I'm helping people to get well."

"I always loved science and particularly physics at school," she said. "So when I got the chance I did a week of work experience in the radiation protection department of King's College Hospital, London – my local hospital.

"I went on to study physics at university, and took options in medical physics and a Masters project in radiotherapy drugs. I loved physics but

didn't want to go into pure academia. I wanted to use my physics knowledge in a more applied way, so medical physics seemed like the perfect option."

Katharine says: "Having the chance to study for an MSc, paid for by the Department of Health, is an amazing opportunity and not something offered by many graduate schemes. In the workplace-based components, trainees get to take part in all the most interesting work of the department, as well as trying out small projects and observing clinical procedures.

What's Katharine's advice for anyone interested in a career in healthcare science? "If you like science and interacting with people, try and visit hospitals to find out about healthcare science jobs," she said. "And if possible talk to people in a variety of jobs about their day-to-day work and interests."



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# Rebecca Franses

## Molecular cell biology

Rebecca is a pre-registration healthcare science trainee. She works in the genetics department at Great Ormond Street Hospital analysing test results from samples that come into the genetics lab.

Rebecca always loved the idea of having an impact on patient care in her day-to-day work. "Having that patient connection really motivates me," she says. The other major appeal of healthcare science for Rebecca was the variety of work. "I love working on different diseases and having a broad knowledge of healthcare science, as well as more in-depth knowledge of my specialty."

Rebecca got a place on the NHS Scientist Training Programme after completing her undergraduate degree. "In my role, I analyse and interpret genetic tests, such as microarrays (a collection of microscopic DNA 'spots') and DNA sequencing, and then write reports for clinicians explaining the results of the test, what they mean for the patient, and what further testing may be needed. I also help to ensure the correct tests are carried out on each sample in the lab and that results are issued promptly."

"If you are thinking of applying for a healthcare science course, try and get some work experience, even if it's just a visit to one of the labs to look round and chat to some of the staff about what their job entails. It will help you decide what it is you want to do."



“Healthcare science is a very rewarding and interesting career, and is a really good way to use your science degree for the benefit of patients.”