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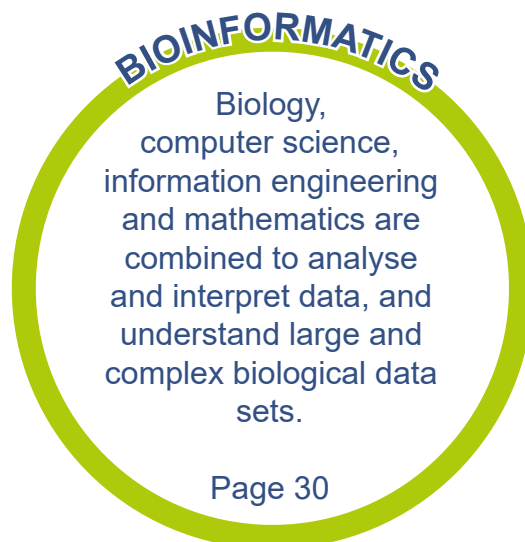
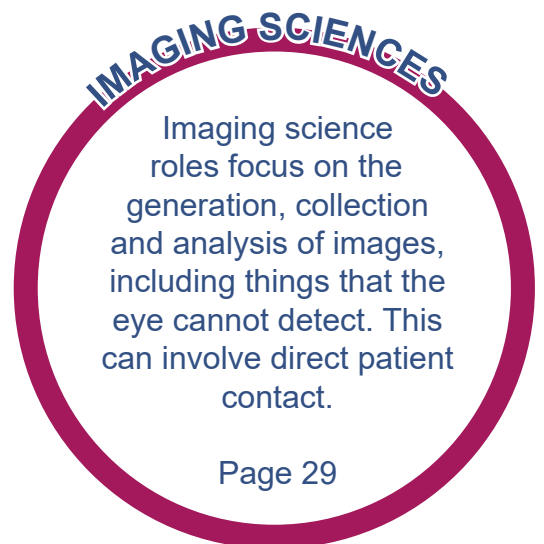
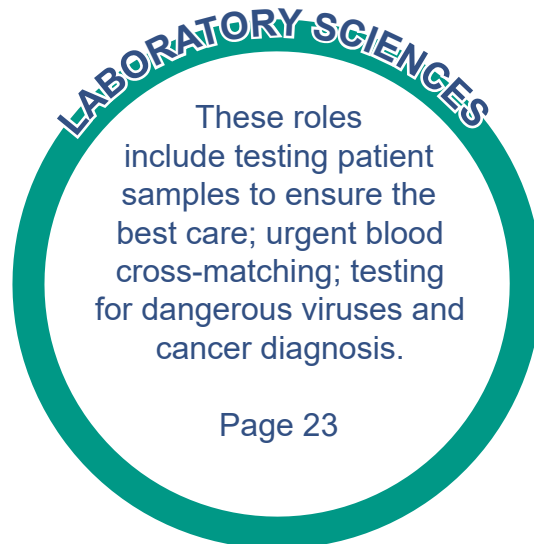
Addysg a Gwella Iechyd  
Cymru (AaGIC)  
Health Education and  
Improvement Wales (HEIW)

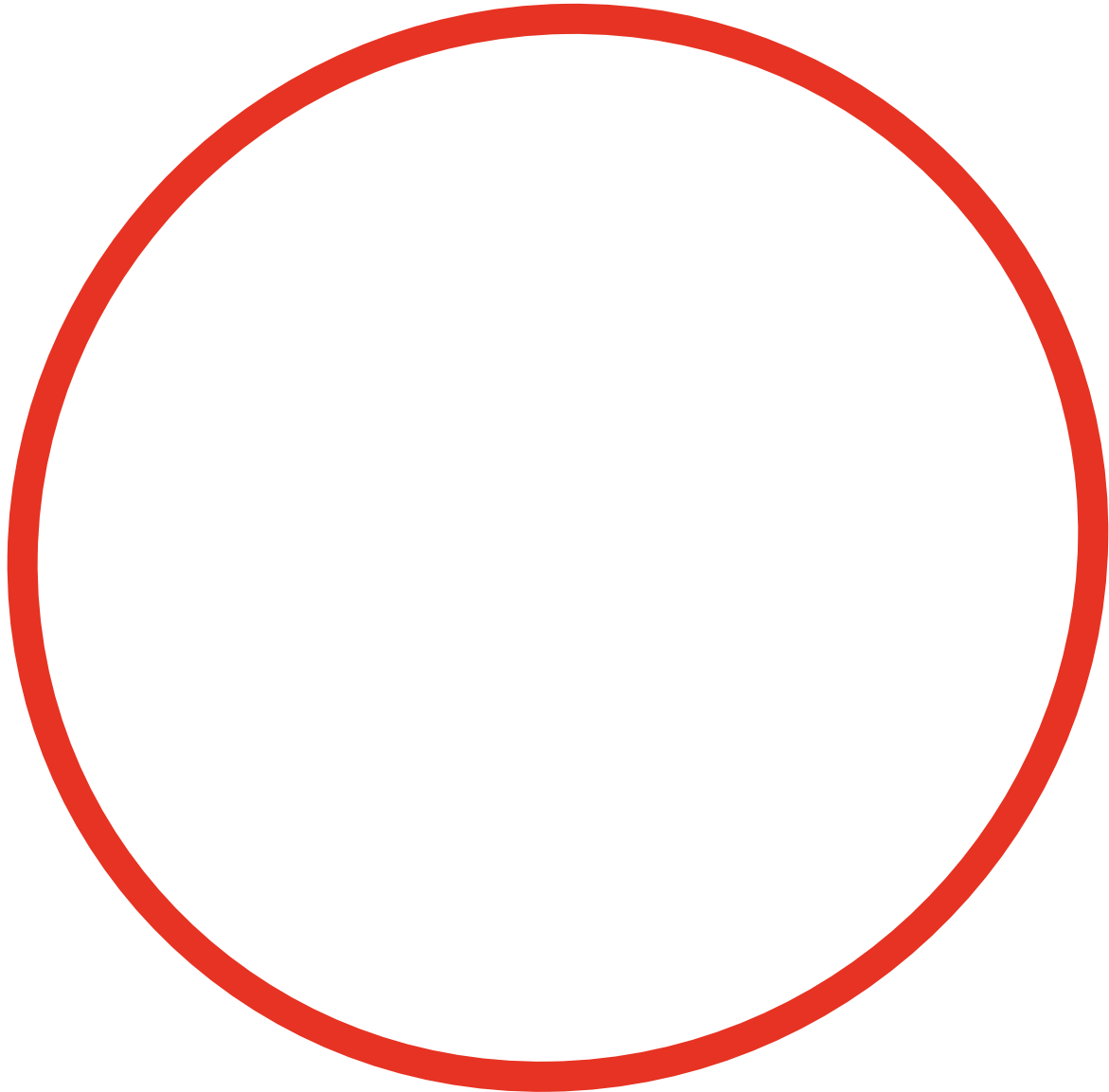


**Healthcare  
Science  
Cymru**

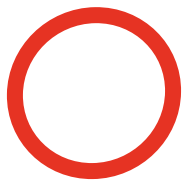
# Healthcare Science Job profiles

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# **PHYSICAL SCIENCES & BIOMEDICAL ENGINEERING**



# Life as a Healthcare Scientist

**Name:** Pearl Read

**Job title:** Trainee Clinical Scientist (Rehabilitation Engineering)

**Location of work:** Rehabilitation Engineering Unit, Morriston Hospital, Swansea Bay University Health Board

## What does my job role as a healthcare scientist involve?

As I am training to become a qualified healthcare scientist, my role involves a variety of activities to develop my skills as a scientist and broaden my knowledge in the specialist field of rehabilitation engineering. This is measured by several competency based activities that require sign-off. The role generally involves designing, manufacturing and testing both standard and custom made medical devices, including special seating systems and wheelchairs, with the intention of providing good quality patient care. However, the role of a clinical scientist goes beyond the clinical activity with patients, into the realm of innovation and service development.

Our team includes Clinical Scientists, Rehabilitation Engineers, Clinical Nurse Specialists, Therapists, Medical Secretaries, an Upholstery Technician and a Quality Implementation Manager. Working in such a varied multidisciplinary team is a great opportunity for collaborative ideas from specialists with different expertise. Our department has a fully equipped workshop facility suitable for a range of in-house manufacturing and upholstery.

## What do you enjoy about your job?

It is a rewarding career where we are able to design and provide custom and bespoke solutions to such a broad range of complex patients, which can have such a big impact on their day to day lives.

## What are your career ambitions?

My current goal is to successfully complete the Scientist Training Programme and gain registration as a Clinical Scientist in Rehabilitation Engineering. In the future, I hope to secure a post as a registered Clinical Scientist in a Rehabilitation Engineering department and have a clinical caseload of my own.

## How did you get into your role?

After completing a BEng in Medical Engineering at Swansea University, I went on to participate in the three year Scientific Training Programme (STP), with the National School of Healthcare Science (NSHCS), specialising in Rehabilitation Engineering.

## What kind of person does your job suit?

My job would suit someone with both an engineering background and the ability to use problem solving and design thinking to create ideas and solutions. Working in a clinical setting also requires someone with caring and compassionate qualities and the patient's best interests at heart.

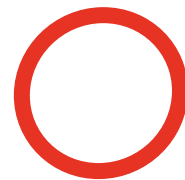


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Healthcare  
Science  
Cymru



# Life as a Healthcare Scientist

**Name:** Chris Hopkins

**Job title:** Head of Clinical Engineering

**Location of work:** Hywel Dda University Health Board

## What does my job role as a healthcare scientist involve?

As a clinical engineer, you would use physical and materials sciences, combined with manufacturing and computing skills, to help improve the diagnosis and treatment of disease, and also the rehabilitation of patients. You could be involved in full lifecycle management of technology, as well as designing and developing instruments or in research. Clinical engineers design, develop, support and manage medical devices. They also have an important role in research and development. You might be based in a large hospital department that covers a range of medical physics and engineering work, giving support to all the clinical units. Alternatively, you could be part of the scientific team in a rehabilitation unit, along with doctors, nurses and therapists.

## What do you love about your job?

Working with doctors, I've designed equipment for new medical techniques, for example, optical instruments for keyhole surgery. I also look after and maintain advanced medical equipment such as imaging machines and monitoring systems and I also do quality assurance checks to make sure all of the equipment works correctly and safely. I really enjoy work on creating technology to research disease.

## What are your career ambitions?

To continue to research new medical

technologies and techniques that support healthcare.

## How do you get into clinical engineering?

The first step is to take at least 3 A-levels, including maths and physics, and preferably, another science and get good grades.

The second step is to take a full honours degree in medical, biomedical (preferably) electrical, electronic or mechanical engineering and aim to get at least a 2:1. (Please note: If you intend to qualify later in your career as a Chartered Engineer you should preferably obtain an accredited engineering degree - an MEng for those currently entering higher education. Check the Engineering Council website for a list of accredited courses.)

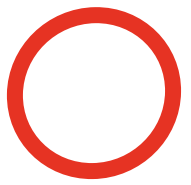
Only then, as a third step, can you look at joining the NHS based clinical engineering training programme called STP (Scientists Training Programme) which has a limited number of training posts every year. They are funded by the Department of Health so you will receive a salary whilst you take an specialist MSc degree in Clinical Engineering and receive vocational training in a hospital department.

## What kind of person does your job suit?

Someone who loves engineering and the application of these techniques to healthcare.

If you are interested in a career in healthcare science, visit the Health Education and Improvement (HEIW) website where you can find information regarding the 50+ disciplines available and routes of access: <https://heiw.nhs.wales/transformation/healthcare-science-cymru/>





# Life as a Healthcare Scientist

**Name:** Tania Silva

**Job title:** Nuclear Medicine Clinical Technologist

**Location of work:** Nuclear Medicine Department,  
Singleton Hospital, Swansea Bay University Health  
Board

## What does my job role as a healthcare scientist involve?

My job role is to perform exams with diagnostic and therapeutic purposes, whether through methods of information/image acquisition or radio-immunoassay techniques, using medicines marked with small quantities of radioactive isotopes. We work as a team in order to give the best care to the patient and family.

## What do you enjoy about your job?

I enjoy the patient interaction, the everyday challenge and the constant learning.

## What are your career ambitions?

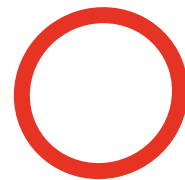
To involve in different techniques, e.g. PET/CT and enrol in a master degree in order to help in my department's development.

## How did you get into your role?

I did my degree internationally (in Portugal) where I specialized in Nuclear Medicine procedures only. I did placements in different centres throughout my degree as well as attended different congresses.

## What kind of person does your job suit?

My job would suit someone who likes physics, anatomy, physiology and patient care.



# Life as a Healthcare Scientist

**Name:** Dr Kate Bryant

**Job title:** Consultant Clinical Scientist, Head of Non-Ionising Radiation

**Location of work:** Medical Physics and Clinical Engineering department, University Hospital of Wales, Cardiff and Vale University Health Board

## What does my job role as a healthcare scientist involve?

Consultant Clinical Scientist, Head of Non-Ionising Radiation Section of Medical Physics and Clinical Engineering. This includes the Vascular Ultrasound service (10,000 patient's/year, working with clinical and healthcare professionals from all clinical areas), Ultrasound quality assurance service (5 health boards), Laser Protection Service, UV service.

I am the All Wales Clinical Scientist training coordinator, Chair of RPSSAG and honorary lecturer at Cardiff and Swansea Universities for Medical Physics BSc/MSc courses.

## What do you enjoy about your job?

- Variety
- Clinical input
- Patient contact role
- People and service management
- Teaching and Training
- Use of my scientific skills
- Working with a very wide range of health professionals
- Potential to innovate and make a difference

## What are your career ambitions?

- Increase research and development activities

- Grow MPCE services and improve patient care through service innovations, clinical and scientific developments.

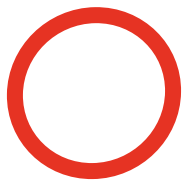
## How did you get into your role?

- BSc Physics with Medical Physics (1st Class hon) Cardiff University
- Postgraduate IPPEM medical physics training programme: dipIPPEM and MSc in Medical Radiation Physics (Swansea University).
- IPPEM Part II training (HCPC registration)
- PhD and Diploma of Research Methods (Cardiff University).
- ILM management courses (Levels 3 and 5),
- LPA certification
- HSS equivalence training to gain certification for Consultant Clinical Scientist.

## What kind of person does your job suit?

- Has a physics or physical sciences degree and doctorate level qualifications or equivalent.
- Interest and experience in Medical Physics and Clinical Engineering.
- Experience in research and development
- Experience and interest in people and service management.

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# Life as a Healthcare Scientist

**Name:** Joseph Purden

**Job title:** Senior Lecturer in Medical Physics  
Technology

**Location of work:** Department of Interprofessional  
Health Studies, College of Human and Health  
Sciences, Swansea University

## What does my job role as a healthcare scientist involve?

To teach students about the practices of nuclear medicine and radiotherapy physics, training them to become a technologist or dosimetrist. Dosimetrists work with oncologists, radiographers and clinical scientists in the planning of radiotherapy treatments, quality control of equipment, support for delivery of treatment and creation of supporting and immobilising devices. Nuclear medicine technologists create and administer radiopharmaceuticals, for the diagnosis and treatment of a range of diseases, including cancer.

## What do you enjoy about your job?

Contributing to the training of the next

generation and keeping up to date with clinical practice as it develops, for the patient's benefit

## How did you get into your role?

- Undergraduate: BSc (Hons.) Clinical Technology - dual training in nuclear medicine and radiotherapy physics
- Postgraduate: MSc (Oxon) Radiation Biology
- Part-time PhD (in progress)

## What kind of person does your job suit?

- Nuclear medicine: patient-centred work, fast-paced and different every day
- Radiotherapy physics: precise and technical, less patient contact



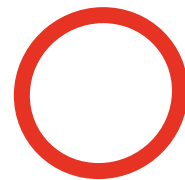


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Healthcare  
Science  
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# Life as a Healthcare Scientist

**Name:** Konstantinos Pelesis

**Job title:** Nuclear Medicine Clinical Technologist

**Location of work:** Department of Medical Physics and Engineering, Department of Nuclear Medicine, Singleton Hospital, Swansea Bay UHB

## What does my job role as a healthcare scientist involve?

Nuclear medicine is a medical sector which deploys radioactive medicines (radiopharmaceuticals) in medicine for diagnosis, staging of disease, therapy and monitoring the response of a disease process. My job as a Nuclear Medicine Clinical Technologist is to firstly make sure that I remain highly competent and I constantly enhance my capabilities. Some of other my duties include the daily quality control of equipment, and the dispensing and administration of radiopharmaceuticals. Furthermore, I am in charge of the imaging procedures, including: positioning the patient, controlling the imaging devices and assessing the quality of the images.

For the aforementioned, team work is necessary and contains colleagues from many different professional disciplines (radiographers, pharmacists, physicists, doctors, nurses and more). For example, when a detector's daily control procedure fails, the clinical technologists immediately inform the clinical scientists about the problem, and after the proper verification, the clinical engineering team is called to fix it. The fluent continuation of the department's activities heavily depend on the spotless collaboration of many diverse teams.

## What do you enjoy about your job?

The best part of this job is assisting patients in need (often having very serious conditions) and

making their life as comfortable as I possibly can. To achieve this, I use a wide spectrum of fascinating science and I collaborate with very capable, kind-hearted and supportive people. It feels like a family!

## What are your career ambitions?

This job offers a huge variety of options. My dream is to firstly become a clinical scientist in Nuclear Medicine, hopefully via a training route in my current Nuclear Medicine department (Singleton Hospital, Swansea Bay UHB), and continue offering my services to the people of Swansea.

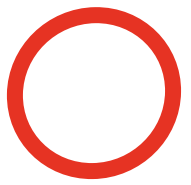
## How did you get into your role?

I have a 4-year long B.Sc. in pure Physics from the University of Ioannina (GR). An introductory degree in Nanomedicine and an Institute of Physics and Engineering in Medicine (IPEM) accredited M.Sc. in Medical from the University of Surrey. I have completed numerous research projects, including an R&D internship in Adaptix Ltd, under the supervision of Dr. Gil Travish, regarding X-rays.

## What kind of person does your job suit?

Our job is not a simple profession, it is a vocation. The perfect person for my job is an altruistic and capable one, someone who is willing to work hard, is devoted to excellence, and seeks constant improvement. If you love science and you have all of the above, lose no time!

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# Life as a Healthcare Scientist

**Name:** Artjoms Smakovs

**Job title:** Clinical Scientist - Radiotherapy Physics

**Location of work:** Singleton Hospital, Swansea Bay  
University Health board

## What does my job role as a healthcare scientist involve?

My role involves development and maintenance of a quality assurance programme for all treatment modalities, computational equipment and programs to assure that patients receive prescribed doses and dose distributions, within acceptable degrees of accuracy. I am also involved in acceptance testing and commissioning of the new equipment such as linear accelerators, CT scanners and tools for detecting radiation. I am responsible for the maintenance of all instrumentation required for measurement of radiation. One of our newest machines is equipped with a new modality that has never been used in the Health Board before.

This technology is used to decrease the time of treatment delivery leading to the higher number of patients being treated for their cancer each day. This is a vital step towards the reduction of patient waiting times in radiotherapy while preserving safety and effectiveness. Moreover, this new technique opens a path to more advanced patient treatment methods that can be used to treat specific types of cancer more quickly and with fewer side effects.

## What do you enjoy about your job?

I work together with doctors, radiographers, technologists and other physicists. That multidisciplinary activity is rare to find and I learnt a lot from working with people looking at the same problem from multiple angles.

## What are your career ambitions?

There is a huge potential for the personal and professional growth in this field. There is a wide range of problems that can be tackled with Medical Physics which makes it exciting.

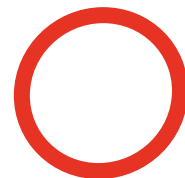
## How did you get into your role?

I have attended one of the outreach events designed for the perspective students and was inspired by the opportunity to work in a field where modern science is used for diagnosing and treating cancer. I have organised similar outreach events in our department after I started working as a Clinical Scientist in order to inspire future generations of engineers and scientists to consider a career in healthcare.

## What kind of person does your job suit?

Medical Physics aim is to improve human health which is a worthwhile goal to be striving for. This job would suit someone who wants to find a way how to use the cutting-edge technology for patient's benefit.

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# Life as a Healthcare Scientist

**Name:** Mark Bowtell

**Job title:** Principal Clinical Scientist

**Location of work:** Rehabilitation Engineering, Morryston Hospital, Swansea Bay University Health Board

## What does my job role as a healthcare scientist involve?

- Assessor, prescriber and designer of special seating solutions for those with complex physical disability in wheelchairs
- Operational lead of the specialist pressure ulcer team
- Training officer for healthcare scientists
- Research and development
- Liaison with wider MDT through nursing, therapies and medical
- Managerial and leadership responsibilities

## What do you enjoy about your job?

- Variety of roles
- Patient-facing
- Different challenges every day

## What are your career ambitions?

- Empower others to reach their potential
- Improve quality and reach of our specialist services
- Facilitate national networks

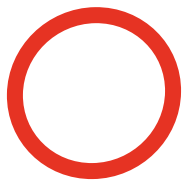
## How did you get into your role?

- I am currently completing a training course Masters and doctors level post graduate study/research
- Clinical Scientist training scheme with IPEM (equivalent to STP)
- Chartered Engineering status
- Great support from supervisors, managers and mentors

## What kind of person does your job suit?

- Wants to get involved at the healthcare front line as an engineer
- Has a heart for helping people to do their best
- Scientifically minded - critical but positive





# Life as a Healthcare Scientist

**Name:** Douglas Etheridge

**Job title:** Head Radiotherapy Physics Technologist

**Location of work:** Head Radiotherapy Physics Technologist, Radiotherapy Physics Services, Medical Physics & Clinical Engineering, Singleton Hospital, Swansea Bay University Health Board

## What does my job role as a healthcare scientist involve?

I plan and QA radiotherapy treatment to treat cancer. This involved outlining target volumes to treat and organs at risk we want to spare. I optimise these treatments plans for all cancer sites to target the tumour while trying to minimise side effects to treatment.

I am also involved in taking measurement on the treatment machines to check that are working properly and as expected.

One on my main parts of my role now is to develop new treatment techniques to ensure that our patient we treat receive the best treatment possible. Am also involved in optimising treatment pathways to ensure that everything involved in getting our patient on treatment happens quickly, efficiently and safely.

## What do you enjoy about your job?

The challenge of developing new techniques and pathway to best treat our patients.

## What are your career ambitions?

To get all our patient on treatment within in a week of consent to treatment and to deliver the best treatment possible to these patients.

My personal ambition be become the manager of the Radiotherapy department

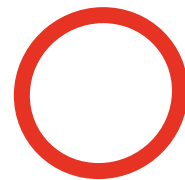
## How did you get into your role?

I undertook the Radiotherapy Physics BSc course and Swansea University and got a job at Singleton Hospital. I have gained promotion through the department over my 10-year career. During this time have undertaken a MSc in Radiotherapy Planning at Sheffield Hallam university as well as other development courses.

## What kind of person does your job suit?

My job would suit someone who is hard working, diligent, has an eye for detail, ability to multitask and think laterally. You need good communication skill and the ability to explain complex information in a simple way. You are also required to concentrate for long-time and have advance computer skills.





# Life as a Healthcare Scientist

**Name:** Lucy Faulkner

**Job title:** Trainee Radiotherapy Physics Technologist

**Location of work:** Department of Medical Physics and Clinical Engineering, Singleton Hospital, Swansea Bay University Health Board

## What does my job role as a healthcare scientist involve?

I create treatment plans for patients who are receiving radiotherapy to treat their cancer. This means that I will outline any organs close to the tumour on a CT scan, and report any radiation dose that is being received by the treatment. My aim is to tailor every patients treatment so that their tumour is receiving enough radiation to kill it, whilst sparing any surrounding organs at risk. I also make accessories that keep patients still during treatment so to keep their surrounding organs safe and still.

## What do you enjoy about your job?

Meeting patients and having a patient focused role. I also enjoy knowing my team and I have a real impact on the patients I meet.

## What are your career ambitions?

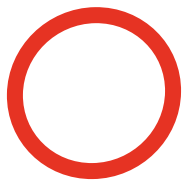
I hope to complete my training course and help to develop the department and drive it forward, as radiotherapy is constantly advancing. These advancements allow quicker times to treatment, and quicker treatment times and so will help patients even more.

## How did you get into your role?

I am currently completing a training course through the Institute of Physics and Engineering in Medicine, where I will receive a postgraduate diploma in Clinical Technology at the end. This includes writing a portfolio on all the work I am doing, as well as a viva at the end. I already have a degree in Physics so I am hoping this will help me in my role.

## What kind of person does your job suit?

Wants to make a positive change and help patients whilst working in an environment that has logic and reasoning, as well as the patients best interest, behind everything they do.



# Life as a Healthcare Scientist

**Name:** Daniel Rees

**Job title:** Videographer

**Location of work:** Medical Illustration, Morriston Hospital, Swansea Bay Health Board

## What does my job role as a healthcare scientist involve?

I create videos for the Health Board from briefs given to me by all areas of the Hospital. This includes all pre production, production and post production work when making these videos. I work a lot with cameras, technology and computers editing the videos into the final film the clients are happy with. I work with other creatives in my department of Medical Illustration being photographers, animators and other filmmakers and we usually work in tandem on projects to utilise our skills to make best possible video that fits the purpose required.

## What do you enjoy about your job?

It can be challenging but also very rewarding as the content we produce is being used to help others. I have a passion for creativity, cameras and editing and portray this through my way of filmmaking and I'm lucky to be paid for a hobby of mine.

## What are your career ambitions?

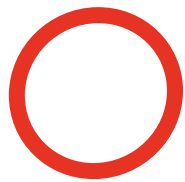
My career ambitions would be to eventually make my own independent films and work for myself or a production company. I enjoy creating factual content like documentaries so this would be the avenue I'll look to pursue.

## How did you get into your role?

I studied Television Production at the University of Gloucestershire and finished my degree with a First Class Honours. I learnt most of my craft there and have had various experience in the TV industry working on different shows, production companies and making my own films.

## What kind of person does your job suit?

My job would suit someone who is creative and likes working with media. Also someone who's looking for a creative way to work within the NHS, it's a good balance of filmmaking and the medical side of things. I had no experience within the NHS or anything medical before this job and I have learnt so much already, so it's not a necessity, just a willingness and eagerness to learn.



# Life as a Healthcare Scientist

**Name:** Colin Gibson

**Job title:** Consultant Clinical Engineer/Head of Rehabilitation Engineering

**Location of work:** Rehabilitation Engineering Unit Artificial Limb and Appliance Service, Rookwood Hospital, Cardiff and Vale University Health Board.

## What does my job role as a healthcare scientist involve?

I lead a department (comprising several Teams) delivering a range of specialist clinical technical services to meet the complex needs of severely disabled patients across Wales. I lead the planning, development and delivery of these rehabilitation engineering services and act as the leading expert within the organisation in this regard working with government, commissioners and regulatory, professional and voluntary sector bodies as appropriate.

As a Consultant Clinical Engineer, I act as a resource of expertise responding to individual cases where patients' needs are not met by existing services provided by the department. I lead research and development aimed at creating holistic solutions relevant to the needs of individual patients and patient groups within existing and emerging services. I lead the planning, development and delivery of education and training in rehabilitation engineering.

## What do you enjoy about your job?

Helping patients by solving difficult problems and 'pushing back the boundaries'

## What are your career ambitions?

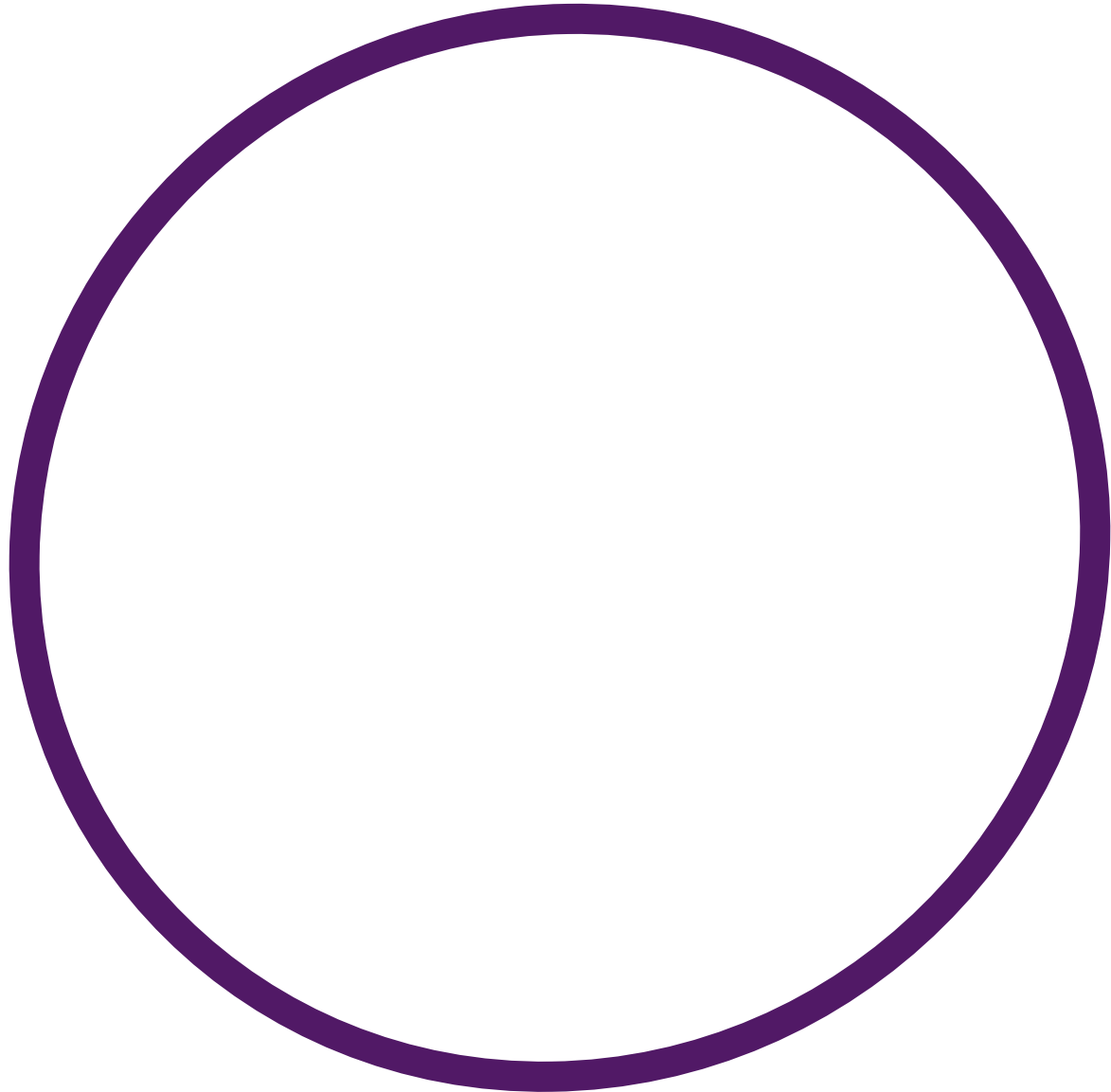
To be Clinical Director of one of the leading Medical Physics and Clinical Engineering departments in Wales

## How did you get into your role?

No formal training existed when I began my career in healthcare science and so I've progressed via equivalence routes at every stage including my recent successful application to join the Academy for Healthcare Science (AHCS) Higher Specialist Scientist Register (HSSR).

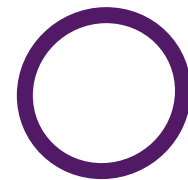
## What kind of person does your job suit?

Enjoys making a difference by leading transformational change.



# PHYSIOLOGICAL SCIENCES





# Life as a Healthcare Scientist

**Name:** Lois Attewell

**Job title:** Clinical Lead (Respiratory and Sleep Physiology)

**Location of work:** University Hospital Llandough, Cardiff and Vale University Health Board

## What does my job role as a healthcare scientist involve?

Leading a team of Respiratory and Sleep Physiologists to ensure they are trained and experienced to the highest possible standard within their job role and produce reliable diagnostic results.

Clinically, my role involves leading Cardiopulmonary Exercise Tests involving assessment of the cardiac and respiratory systems to identify a cause of disease or to determine fitness for surgery if cardiac/respiratory disease is already known. I also lead Complex Sleep Apnoea clinics, to diagnose and treat patients who stop breathing at night (apnoea) due to an issue with their brain (central sleep apnoea).

## What do you enjoy about your job?

Being organised, regular service improvement, seeing the output of high standard diagnostic procedures from the team, seeing the patients have a positive experience within the department and the daily smooth running of all aspects the department.

## What are your career ambitions?

I am part of a fantastic team of Physiologists and Administrative staff who make coming to work enjoyable. My short term career ambitions focus on the reaching the potential

of my current role and department, including to maximise the staffing and meet the demands of the referrals to expand the testing capacity. I would also like to develop Respiratory Diagnostic Hubs within Primary Care to prevent patients needing to come into hospital for Respiratory tests. Longer term would be to develop a Full Polysomnography lab within the health board for patients with Sleep Disorders outside of Sleep Apnoea.

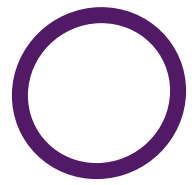
## How did you get into your role?

I completed the BSc. Clinical Physiology (Respiratory Pathway) degree at Swansea University in 2012. On graduating I moved to Worcestershire Royal Hospital as a band 5 Respiratory Physiologist for 18 months and gained a significant amount of experience from a great team. I was then lucky enough to gain the position of Specialist Respiratory Physiologist as a band 6 in my current department, where I worked for 3 years before being awarded my current band 7 Clinical Lead position in 2017.

## What kind of person does your job suit?

is passionate about upholding the highest standards in Healthcare, performing excellent quality diagnostic procedures and ensuring a positive patient experience.

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# Life as a Healthcare Scientist

**Name:** Hannah Hunt

**Job title:** Unit Manager (Respiratory Physiologist)

**Location of work:** Lung Function & Sleep Apnoea Department, University Hospital Llandough, Cardiff & Vale University Health Board

## What does my job role as a healthcare scientist involve?

My day to day job involves managing a team of respiratory & sleep physiologists who perform a range diagnostic tests on a variety of patients.

The department has two elements – lung function testing and the sleep apnoea service.

The lung function tests can range from simple spirometry (which involves the patient breathing into a machine), to complex cardio-pulmonary exercise testing (which involves the patient cycling on a bike whilst measurements of their breathing etc. are taken). These tests can be used to aid diagnosis in patients with respiratory conditions.

The sleep apnoea service again involves the use of diagnostic tests, mainly a small monitor which the patients takes home and wears overnight to monitor their breathing whilst asleep. If a patient is found to have sleep disordered breathing then they will come back to the department to commence treatment and follow up.

## What do you enjoy about your job?

I enjoy the patient interaction – you have to build a good rapport with your patient, especially when performing a lung function test on them as some of the techniques used can be difficult for the patients. It is my responsibility to make the patient feel comfortable and at ease

to ensure they are able to perform the tests to the best of their ability.

I also enjoy the multidisciplinary working. The majority of our patients are seen by other healthcare professionals and in different departments. To be able to play a small part in the bigger picture is very satisfying.

## What are your career ambitions?

I would like to undertake the equivalence pathway to become registered as a Clinical Scientist.

## How did you get into your role?

I completed a four year degree programme in Clinical Physiology with Respiratory Physiology (now replaced by the three year Healthcare Science programme). Worked as a locum for two years before getting a permanent post as Band 6 Physiologist (for four years) then promoted to Band 7 Unit Manager four years ago.

## What kind of person does your job suit?

Someone who has good communication skills and likes working with patients and as part of a team. They would also need to enjoy using technology and specialist equipment in their day to day role.

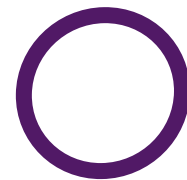


**GIG**  
CYMRU  
**NHS**  
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Addysg a Gwella Iechyd  
Cymru (AaGIC)  
Health Education and  
Improvement Wales (HEIW)



**Healthcare  
Science  
Cymru**



# Life as a Healthcare Scientist

**Name:** Ellen Thomas

**Job title:** Principal Clinical Scientist (Audiology)

**Location of work:** Penguin Audiology Department,  
Children's Hospital for Wales, Cardiff and Vale  
University Health Board

## What does my job role as a healthcare scientist involve?

My job as a clinical scientist in paediatric audiology includes performing a range of hearing tests, providing advice to children and their families regarding hearing and providing interventions such as hearing aids when needed.

Our patients range from newborn babies up to teenagers, giving us a real variety of people to work with and ensuring that every day is different. We work closely alongside Ear, Nose and Throat Consultants and Nurses, Speech and Language Therapists and Teachers of the Deaf to provide each child with the best care and best possible outcomes.

Other aspects of my job include calibration of audiology equipment, completing audits to ensure the department is meeting standards set out for the profession, continued service development to improve the services provided for our patients and also some managerial duties for members of the Paediatric Audiology Team.

## What do you enjoy about your job?

What I enjoy most about my job is meeting children and their families, building relationships with them over time and being able to see their progress as they grow up. There is nothing

more rewarding for me than helping a child with their hearing, and being able to see the benefits that they get from a hearing aid. I also enjoy working in a large and friendly multi-disciplinary team.

## What are your career ambitions?

My career ambitions are to gain confidence in my current job role and ensure that I am performing my current responsibilities as well as possible.

## How did you get into your role?

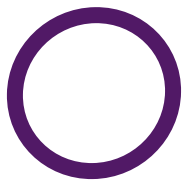
I completed the Scientist Training Programme in Audiology in 2016, which involved completing an MSc in Audiology and three years of 'training on the job'. I have been lucky enough to remain employed in my training department in Cardiff which has provided me with fantastic opportunities for development and progression.

## What kind of person does your job suit?

My job would suit someone who is caring, empathetic, enthusiastic and conscientious. Team working is important for this role, but also the ability to work well independently. An interest in science and patient care are also both important for this role.

If you are interested in a career in healthcare science, visit the Health Education and Improvement (HEIW) website where you can find information regarding the 50+ disciplines available and routes of access: <https://heiw.nhs.wales/transformation/healthcare-science-cymru/>





# Life as a Healthcare Scientist

**Name:** Jenny Townsend

**Job title:** Principal Clinical Scientist / Head of auditory implant service

**Location of work:** Audiology Department, Glan Clwyd Hospital, Betsi Cadwaladr University Health Board

## What does my job role as a healthcare scientist involve?

My current role is to manage the auditory implant (cochlear implant and BAHA) services across North Wales. These surgically implanted devices improve hearing for people who cannot benefit from normal hearing aid technology.

I work within a great team of audiologists, clinical scientists, speech therapists, ENT surgeons and admin support. The majority of my role now is management and leadership; setting a vision and direction for the service, securing resources & managing the finances, organising everyone, and ensuring our service is safe, patient-centred and continually developing to be the best it can be. I also have a couple of clinical sessions a week where I support people with profound hearing loss who either need, or have received, a cochlear implant.

An important aspect of my senior role is to contribute to the wider audiology & healthcare community, for example examining trainees, organising conferences and sitting on national advisory groups.

## What do you enjoy about your job?

I've never looked back since choosing audiology as a career 21 years ago. I've been blessed with continuous opportunities to learn and develop in my job. I still love seeing the often magical effect that restoring hearing has on people's quality of life, and the relationships we get to build, both with

our patients and within the team. The technology element is fun too, and constantly developing; it's almost unrecognisable from when I started. I also love the benefits of being in a 'family friendly' clinical profession where I can still have my weekends and evenings!

## What are your career ambitions?

I've reached the level I'm comfortable at for the next few years while I juggle work and raising my young family. I still have plenty to learn! One day I might consider taking on more responsibility, but I wouldn't want to lose the clinical part of my role altogether.

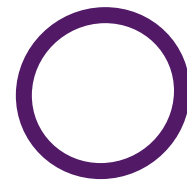
## How did you get into your role?

My first degree was in Biochemistry. I soon realised I wanted more clinical contact in my career, so I applied for the CAC (now Audiology STP) in North Wales. After my MSc and clinical exams, I specialised in cochlear implants and completed a part-time AuD (professional doctorate) in Audiology.

## What kind of person does your job suit?

My job would suit someone who enjoys variety, thrives under pressure, is organised and can juggle competing demands. A excellent communicator who loves patient contact and is continually focussing on ways to make things better.





# Life as a Healthcare Scientist

**Name:** Richard Perdue

**Job title:** Clinical Scientist, Audiology

**Location of work:** Audiology Department, Singleton Hospital, Swansea Bay Health Board

## What does my job role as a healthcare scientist involve?

I have a leading role as part of a multi-disciplinary team providing a comprehensive Audiology service. This includes working throughout the Health Board both in hospital and community settings. Work undertaken can include direct referral audiology, hearing aid fittings, paediatric assessment and rehabilitation, and balance assessment and rehabilitation in our dedicated vestibular function clinic. I work with patients ranging in age from 0 years old to 100+.

I work with up to date technology to ensure the best outcomes for people with hearing loss. I work closely with other professionals including ENT, SALT, Education, Child Health and Radiology, along with volunteer groups and charities. I participate in meetings, research projects and service improvement schemes.

## What do you enjoy about your job?

Hearing and balance difficulties can be chronic conditions which can have severe implications for people's quality of life.

It is very rewarding that as an Audiologist I am able to help a person manage some of these problems so that they can live their life to the fullest. Helping people to achieve this can include using the most modern technologies such as digital hearing aids, enhancing someone's understanding of their condition, and sign posting people to support groups.

## What are your career ambitions?

Our service has been expanding our presence in Primary Care. Services offered include full audiometric assessment, wax removal, and arranging onward referral as appropriate. I hope to have a role in these clinics as the service grows.

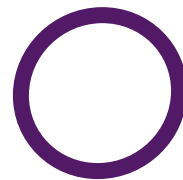
## How did you get into your role?

I initially completed an undergraduate science degree in an unrelated subject. My training as a Clinical Scientist began when I was employed by the Health Board. The first year of my employment was spent studying for the MSc Audiology. Upon the completion of the MSc further training was undertaken within my Health Board. Over the next few years I completed the HCCC clinical modules including Balance Assessment and Rehabilitation, Paediatric Assessment and Adult Rehabilitation and First Line Diagnostics. Finally I completed the non-clinical portfolios HCCC Research Methods and HCCC Service Development. This enabled me to submit my ACS application.

## What kind of person does your job suit?

The role is perfect for someone who is enthusiastic about helping people with hearing and balance disorders. Good communication and team working is a must. You must be able to empathise with people. You should be enthusiastic about working with modern technology.

If you are interested in a career in healthcare science, visit the Health Education and Improvement (HEIW) website where you can find information regarding the 50+ disciplines available and routes of access: <https://heiw.nhs.wales/transformation/healthcare-science-cymru/>



# Life as a Healthcare Scientist

**Name:** Ellie Blaxland

**Job title:** Vascular Scientist

**Location of work:** Cardiff and Vale University Health Board

## What does my job role as a healthcare scientist involve?

I scan patients using ultrasound to look for problems within the arteries and veins of the body. This includes scanning necks, arms, abdomens and legs for a variety of clinical reasons. I work in a team of 7 medical physicists, all of whom have slightly different additional roles. We also perform research and audits to ensure our practice is up to date and is best for patients. We also work closely with vascular surgeons, radiologists and haematology specialist nurses to care for patients in a multidisciplinary manner.

## What do you enjoy about your job?

I love combining my scientific knowledge with clinical work. Being able to work directly with patients is really rewarding, and diagnosing a problem can be very satisfying for both the patients and us! It can be hard, but there is always something new to learn and see, and it keeps the job really interesting.

## What are your career ambitions?

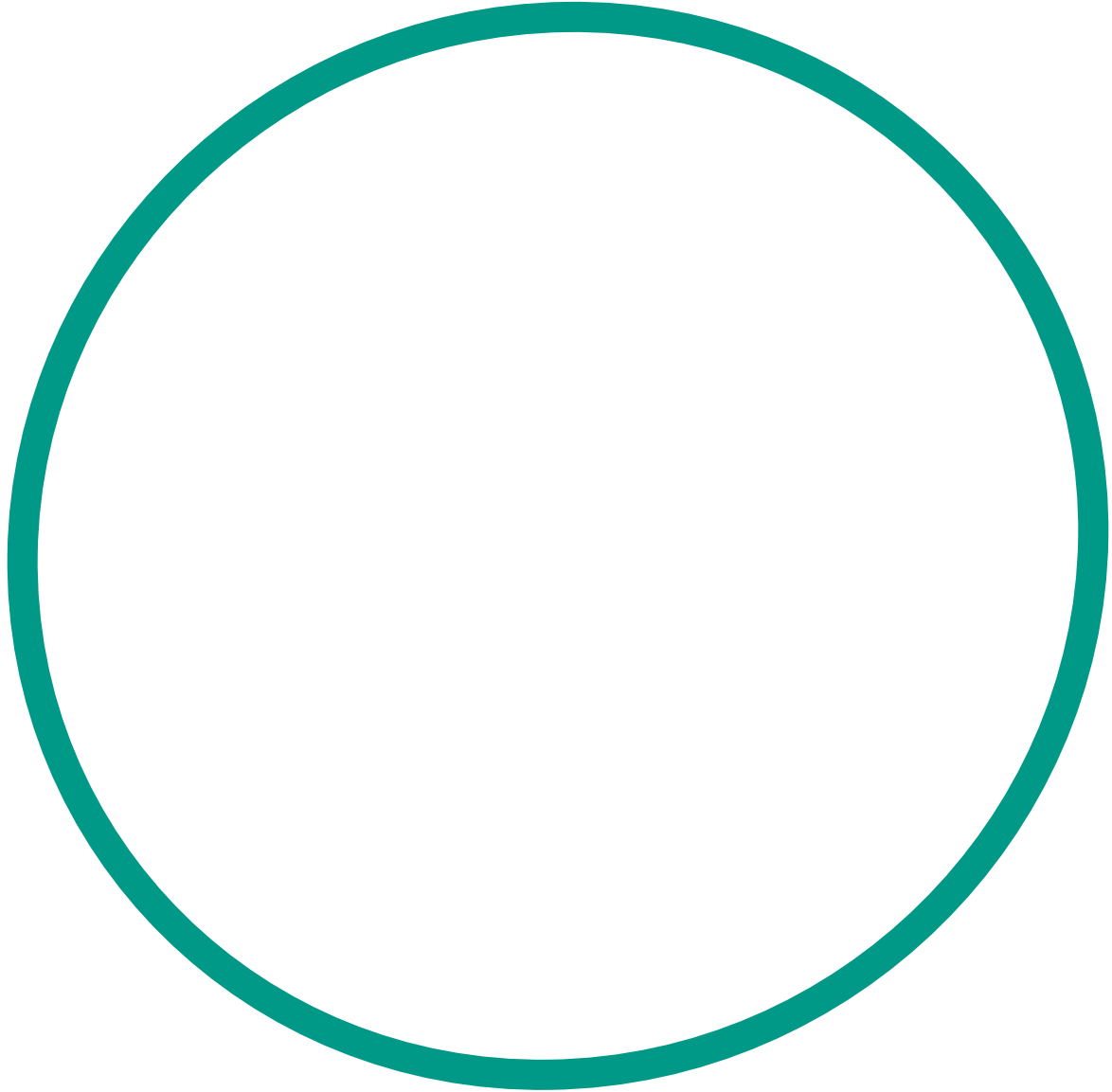
I would like to complete my PhD and get more involved in research within our department. I also enjoy teaching, so perhaps in the future will get more involved in lecturing university students.

## How did you get into your role?

I have an undergraduate degree in Applied Biomedical Science and looked at jobs where I could use my degree but I also got to work with patients, and found Vascular Science. I managed to get a trainee post where I trained 'on the job' and did my Masters degree part time, in 'Medical Ultrasound specialising in Vascular'.

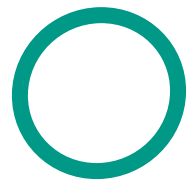
## What kind of person does your job suit?

Is scientifically minded but enjoys face to face interaction with people of all ages from all backgrounds. Someone who wants to get involved with the medical side of the NHS but does not want to be a doctor or a nurse. Someone who likes a challenge but who wants to leave work every day and feel proud of what they do!



# LABORATORY SCIENCES





# Life as a Healthcare Scientist

**Name:** Lauren Powis

**Job title:** Trainee Clinical Embryologist

**Location of work:** Wales Fertility Institute, Neath Port Talbot Hospital, Swansea Bay University Health Board

## What does my job role as a healthcare scientist involve?

As a clinical scientist in Embryology I spend the majority of my time in a laboratory. There are many procedures that we carry out to try to help patients who are unable to conceive naturally. The two main techniques used are IVF where the sperm and eggs are mixed and left to fertilise naturally and ICSI where a single sperm is injected into an egg. We monitor embryo development before preparing it for transfer back into the female patient.

Cryopreservation is also an important part of the role where gametes or embryos are frozen and stored for patients for future use. This includes a service for oncology and transgender patients.

We spend a lot of time ensuring that patients are fully informed before making decisions and keeping them up to date with their treatment progress. Empathy is very important as the role can often involve giving bad news but can also be rewarding when giving good news.

## What do you enjoy about your job?

Embryology is a healthcare science which provides the perfect mix of cutting edge science as well as direct patient care, and this unique combination is one of the main reasons I wanted to become a Trainee Embryologist.

## What are your career ambitions?

Once I have completed the Scientist Training Programme, I would like to gain some experience working as a qualified embryologist with the potential to going onto applying for Higher Specialist Scientist Training to become a Consultant Scientist

## How did you get into your role?

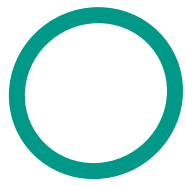
I graduated from Swansea University with a BSc in Genetics.

After completing my degree I began working as a Reproductive Technologist within Andrology at Wales Fertility Institute which then provided me with the experience to be successful in gaining a place on the Scientist Training Programme in Embryology.

## What kind of person does your job suit?

My job would suit someone who:

- can pay attention to detail
- has good communication skills
- can be organised and work to time limits and deadlines
- wants to make a difference to peoples lives.



# Life as a Healthcare Scientist

**Name:** Matthew Thomas

**Job title:** Assistant Practitioner

**Location of work:** Welsh Transplant and Immunogenetics Laboratory, Welsh Blood Service, Velindre NHS Trust

## What does my job role as a healthcare scientist involve?

My role is to support registered healthcare scientists and registered clinical scientists in day to day practical tasks in the laboratory. We perform tissue typing on patients that need organ transplants and bone marrow transplants. I do a large amount of routine testing, such as clinical antibody testing, which is then signed off by a registered scientist.

I also assist in the general running of the laboratory by purchasing stock, processing and logging patient samples, and preparing reagents and equipment for every day use.

## What do you enjoy about your job?

I like that I am helping improve the lives of very ill patients such as renal transplant patients, and patients in need of bone marrow transplant. I get to use a variety of technical equipment, which utilises my problem solving skills and clinical skills.

## What are your career ambitions?

I am currently studying at Cardiff Met completing top-up modules in order to become a registered scientist, as well as completing the IBMS portfolio. I hope to complete this by summer 2021.

## How did you get into your role?

I studied Biology at the University of South Wales, graduating in 2015. I have previously worked in the Welsh Blood Service as an MLA as well as in a nother private laboratory.

## What kind of person does your job suit?

Someone who is clinical and wanting to help others, but who is also looking for a great experience in order to enhance their career.



# Life as a Healthcare Scientist

**Name:** Rebecca King

**Job title:** Embryologist

**Location of work:** Wales Fertility Institute, Neath Port Talbot Hospital, Swansea Bay University Health Board

## What does my job role as a healthcare scientist involve?

Embryologists are the scientists in the lab that help patients to get pregnant by creating embryos. We use microscopes and have to have very good hand-eye co-ordination to move eggs, sperm and embryos around. We also assess embryos to select the best ones to put in a patient or to freeze.

We usually work within a small team of scientists but also with doctors, nurses, counsellors and administration teams. We keep in regular contact with the patients to provide updates on fertilisation and embryo development and occasionally have to give bad news, which is not easy. We sometimes face complex ethical scenarios and so we need to know the ins and outs of the legal status of embryos, donors, surrogates and parenthood.

We work 'normal' hours but also rotate working weekends and being on call.

## What do you love about your job?

Sometimes we receive cards, or patients bring their babies into the unit which is amazing and each time you realise the huge impact science can make.

We also carry out research; I was lucky enough to present a study about frozen embryos in a conference in Edinburgh in January 2020.

I enjoy working in a close team and feel we all look out for one another, but mostly I like going

home, knowing I might have contributed in assisting a couple in achieving their family.

## What are your career ambitions?

I would like to continue to help this team as much as possible and help as many patients as I can. I also would like to continue helping to train future embryologists and contribute more to infertility research.

## How did you get into your role?

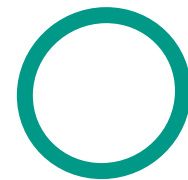
I have an undergraduate degree in Human Biology from Loughborough University and an M.Med.Sci from the University of Nottingham in Assisted Reproduction Technology. I also worked as an IVF receptionist in Oxford. The only way to become an embryologist is to complete the three year Scientist Training Programme in Reproductive Science. Luckily I gained a place on this in 2013.

## What kind of person does your job suit?

This person should enjoy performing routine work within a team. They should also have the ability to remain composed even when the day or task gets quite busy or difficult. Unlike many other lab jobs, embryologists speak directly to patients so being able to communicate clearly, honestly and sometimes empathetically is also a necessity.

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# Life as a Healthcare Scientist

**Name:** Danielle Allen

**Job title:** Trainee Clinical Scientist (Andrology)

**Location of work:** Wales Fertility Institute Cardiff,  
University Hospital of Wales

## What does my job role as a healthcare scientist involve?

As a Trainee clinical scientist in Andrology my job role is to assess male fertility.

This involves observing sperm down a microscope to determine the quality of sperm in a sample. We assess sperm motility- how a sperm is moving, sperm concentration- the number of sperm in the sample and sperm morphology- the shape and size of the sperm.

The results obtained will determine whether a couple will need assisted reproductive treatment such as IVF to have a child.

Andrologists also prepare sperm for assisted reproductive treatments such as IVF which involves working alongside embryologists who carry out the different treatments.

As a Trainee Andrologist I also carry out sperm cryopreservation, which involves freezing and storing sperm. This could be for men undergoing cancer treatment or for transgender patients prior to starting hormone therapy as a way to preserve their fertility. Cryopreservation involves working alongside and liaising with Dr's and Oncologists to ensure the process for patients runs smoothly.

## What do you enjoy about your job?

I thoroughly enjoy the practical laboratory elements of my role and the fact it is also coupled with a good amount of patient contact. Most of all, I enjoy the fact that I can use my skills and knowledge

about the field of andrology to contribute towards making such a positive difference to patients' lives.

## What are your career ambitions?

Once I have completed the scientist training programme I hope to become a laboratory manager of an andrology laboratory that hosts trainee positions for future STP trainees. I would also like to take part in continuous research to improve diagnostic and treatment methods for patients.

## How did you get into your role?

I graduated with a BSc in Biomedical Science from Aston University in Birmingham in 2017.

I then worked as a band 4 Associate practitioner in Histopathology and Andrology for Leeds Teaching Hospitals NHS Trust for 2 years.

I then applied for the Scientist Training Programme for Reproductive Science (Andrology) and was successful in securing a position at Wales Fertility Institute in Cardiff.

## What kind of person does your job suit?

Can pay attention to detail, is efficient and organised, can work well under pressure and to deadlines, has excellent and adaptable communication skills Is self-motivated and wants to use their knowledge to make a positive difference to patients.



# Life as a Healthcare Scientist

**Name:** Amber Bryce

**Job title:** Trainee Clinical Scientist – Cancer Genomics

**Location of work:** The All Wales Medical Genomics Service, Cardiff and Vale University Health Board, University Hospital of Wales

## What does my job role as a healthcare scientist involve?

I am currently in my final year of the Scientist Training Programme (STP) specialising in cancer genomics. This is a three year programme including a part-time master's degree and research project. Cancer genomics is a new specialism and I was very excited to be in the first cohort of students accepted onto the programme. Our curriculum is focused around haematological malignancies and solid tumours. Clinical scientists working in this area are involved in diagnostic work and well as treatment monitoring.

As a trainee I am able to rotate around the various sections of the laboratory and other departments in order to complete competency based training. My general day can range from observing laboratory techniques to performing analysis and writing reports. I also attend university part-time for teaching and exams.

## What do you love about your job?

Genomic testing has become increasingly fundamental to cancer diagnosis, prognosis and treatment. The work we do is very important and directly impacts patient care. I enjoy being able to use my scientific skills alongside my eagerness to help patients. I find the work we do really interesting and as cancer genomics is

a rapidly growing field there's always something new to learn. The NHS is currently a global leader in genomics which is shaping the future of medicine and exciting to be part of.

## What are your career ambitions?

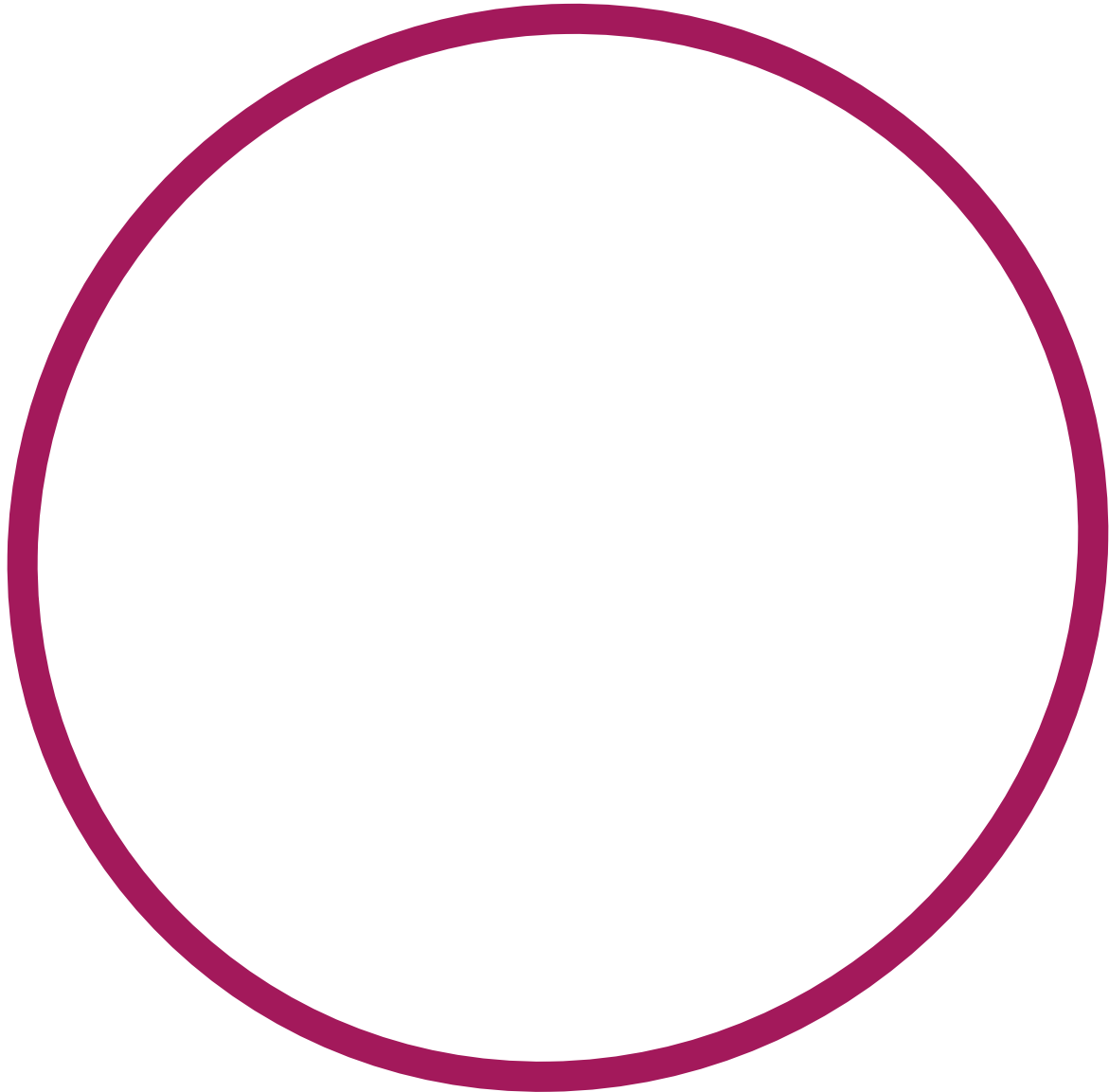
My current goal is to successfully complete the STP so I can apply for HCPC registration as a Clinical Scientist. Following this I aspire to work within cancer genomics where I can put my skills and training into practise.

## How did you get into your role?

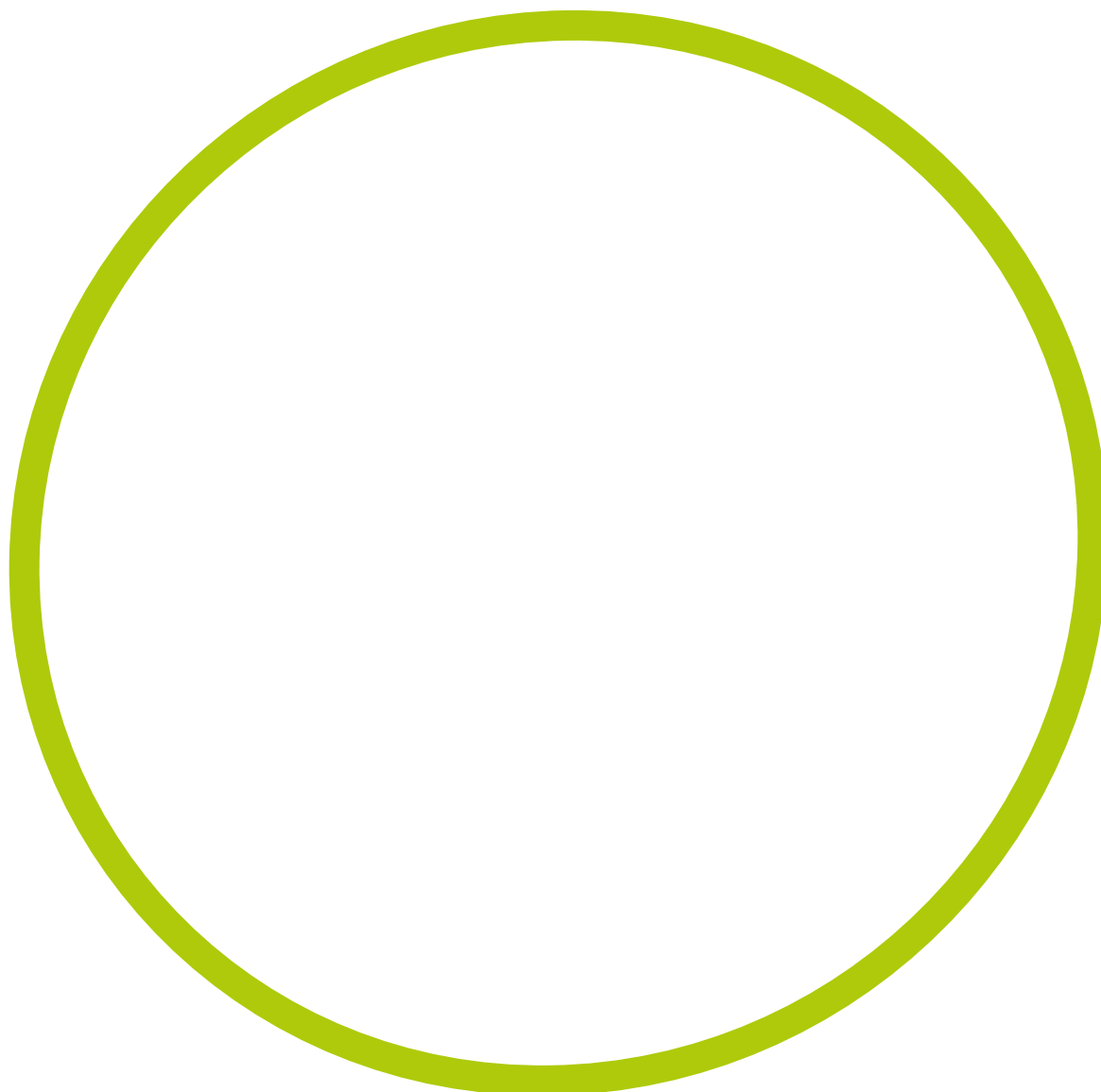
I completed a degree in Applied Biomedical Science and worked as a Biomedical Scientist for a number of years. I was fortunate to gain experience in various pathology disciplines. I then decided to apply for the STP to progress my career and move into a more clinical based role.

## What kind of person does your job suit?

I think the STP is a great training programme but is also challenging and demanding. It would be suited to someone who is hardworking with a keen interest in cancer genomics and a desire to help patients.



# **IMAGING SCIENCES**



# BIOINFORMATICS



