Sacred Heart School STEMinists of the 21st Century: Past pupils, present and future role models.





Sacred Heart School

Tullamore





UCD University College Dublin School of Education chool of Mathematics and Statistics



Dr Ann-Marie Jennings: Head of Randox Clinical Laboratory Services

My name is Dr Ann-Marie Jennings and I am originally from Tullamore, Co. Offaly but am now living in Belfast and working for a Company called Randox Laboratories. Within this company I am Head of a Department called Randox Clinical Laboratory Services (RCLS). I manage 4 Clinical and Molecular Laboratories where two are based in Northern Ireland and the other two are in London and Liverpool.

The type of work we perform in RCLS is quite diverse. We perform all patient testing for Randox Health which is a private healthcare service for personalised and preventative health profiling. We run over 300 different blood tests that range from basic Full Blood Counts to Kidney Health to Hormonal Health to Thyroid Health to full scale DNA sequencing for different types of Cardiac and Cancer Diseases. This method is called Next Generation Sequencing and can help someone determine their risk of developing a type of one of these Diseases.

RCLS is also involved in a number of important Clinical Trials with large Pharma Companies which include Bladder Cancer, Cardiovascular Disease, Stroke and Brain Injury, Acute Kidney Infection, Diabetes, Psorasis, Coeliac Disease and Sepsis.

We also help validate new diagnostic tests that have been developed by the Research and Development Teams within Randox and currently there are over 127 in development. My job is thoroughly enjoyable as no day is ever the same!

My career path that lead me to this role was slightly convoluted. When I was in the Sacred Heart Secondary School I was heavily involved in Sport (Rowing, Basketball and Camogie) and had a strong passion for Science. I wanted to try and combine my two interests and decided to study Sports Science and Biology in St Mary's University in Strawberry Hill, Twickenham. However half way through my second year in University I realised that the course was not for me. I enjoyed the Biology side of the course more so than the Sport side and I felt it best for me to leave this course and enrol in a course that was solely focused on Science. I immediately applied to UCD to study Science where I specialised in Biochemistry.

When I completed my degree I was offered a PhD in the Conway Institute in UCD. I was indecisive as to what I should do as I knew studying for a PhD would be challenging and I had to make sure that this was the right path for me. To help me make my mind up I decided to move to New York where I worked as a Research Assistant in a lab in Columbia University. I thoroughly enjoyed it and knew that studying for a PhD in Biochemistry was the next step to take with regards to my Science career. Upon completion of my PhD I spent time travelling around South America and also worked as a Substitute Teacher teaching Junior and Leaving Cert Science and Math subjects. I moved to Belfast in 2010 to take up a post as a Research and Development Scientist for 2.5 years and developed tests for the detection of Drugs of Abuse in urine and blood samples. I then moved to a new post for 1.5 years where I was employed as a Clinical Project Coordinator. This role involved working in a number of important Clinical Research Projects and Trials such as Acute Kidney Disease, Cardiovascular Disease in the aging population and Lung Cancer. In 2014 I took up the post I am currently working in and this role has developed greatly over the last 5 years. Originally I worked as a Clinical Laboratory Manager in charge of two Laboratories based in Belfast and London and since then we have built and opened another two laboratories in N. Ireland and Liverpool and I was given the opportunity to design and set up the labs based our laboratory processes which was very exciting. I am currently designing another new laboratory in Los Angeles, California and over the coming months myself and my Team will help set up the lab and validate all tests before patient testing can commence. I also offer University students who are studying courses such as Biochemistry, Biomedical Science, Genetics or Biological Sciences work experience placements for either 3 months or 12 months (depending on availability) as I believe it is important for students to try and gain some experience in the laboratory to determine if a career in Science is the right path to take. If anyone wants any advice on careers in Science please do not hesitate to contact me.



My name is Emer McManamly and I am a veterinary surgeon currently working in a mixed clinical practice.

I attended the SHS Tullamore from 1996 to 2002. I was fortunate enough to obtain work experience in a

veterinary practice in Transition Year and this helped me decide that veterinary was for me.

Luckily, I was able to take honours maths and chemistry in my leaving certificate cycle as these were entry requirements for veterinary in UCD at the time. I also took biology and some of the information I learned at this stage I still get to use today.

In 2002 I began studying in UCD and I gualified in 2007, the course was an excellent mix of both theory and practical hands on learning.

I began work in Mullingar Pet Hospital in 2002 and really enjoyed mixed practice and then I moved to Cavan Pet Hospital in 2006 to a larger 8 vet practice.

My day to day work schedule is very variable. On days when I am in the pet hospital I see a lot of patients- from medical consultations to surgery patients to diagnostics like ultrasound, xray and laboratory work. On days when I work with large animals and farmers, I see a lot of cattle and sheep particularly for conditions varying from parturition problems to herd health problems and I also test as part of the T.B. eradication program. My work days can be long and I cover emergencies out of hours on call during the night too. I work a schedule of 12 days on 2 days off during Spring but the level of variation in the work and the combination of indoor and outdoor work means that it never gets boring!

Catherine Graham: Engineer, **Bord** na Mona

I completed my Leaving Certificate in 2006, and to my parents' surprise I had put Civil Engineering as top choice on both Level 8 and Level 6 on the CAO form. They couldn't understand where this idea had come from. On the lead up to the CAO form we completed numerous aptitude tests and career counselling sessions and they were all pointing to Engineering. I always had a curiosity for how things stayed

standing, I remember looking at the doors in our house and wondering why aren't the blocks falling in...what's keeping them up?

Now although my brain was programmed for a maths based career or so all the tests told me. I did ordinary level Maths for my Leaving Cert so the options for studying Engineering were a little more limited. I could attend NUIG, which was 470 points and I would have to sit a maths exam or I could attend any of the Institutes of technology that offered Civil Engineering. My Leaving Cert results came and I got 465 points, 5 points shorts of NUIG and as one of my first lecturers in Athlone IT said to me you could have got in here 3 times with those points.

So I decided to attend AIT, and to be honest it was the best option for me. It took 5 years to complete my degree with this route, I finished it in NUIG and graduated in 2011. I completed my final year dissertation on "The potential tidal power resource within the Shannon basin".

In 2011 we were in the depths of the economic crash that had begun in late 2008. Career options were limited and I didn't really know whether to go or stay. I was at the Ploughing competitions in Laois that September and I got a call from one of my lecturers in AIT, Leo Reddy, to tell me there was a job going in Banagher Precast Concrete and that he would like to put my name forward. I jumped at it and started the following month.

I started in Banagher in October, 2011. I began as a CAD technician producing all the manufacturer reinforcement drawings for the precast elements that they produced. Although I was delighted to have a job and still be in Offaly it wasn't exactly what I had been trained to do so I would keep asking for more responsibility. In 2013 I became a Project Manager for their large scale Irish and UK projects. I worked on the new Glanbia factory in Kilkenny, Bolton Bus Interchange in the UK and various other projects. My job as a project manager was to ensure that once the job came on to our books that it was designed, manufactured and delivered to site in an efficient manner. The job was stressful and some times you felt like you were fighting fires all day long but I learned a lot.

In January 2017 I left Banagher for the bright lights of Bord na Mona and coincidentally only half way back up the

Ciara McManamly: Senior Clinical Pharmacist

I am currently working as a Senior Clinical Pharmacist in Tallaght University Hospital having commenced employment there almost 16 years ago.

I sat my Leaving Certificate exams in 2000 in the Sacred Heart School. enjoyed mathematics, biology and particularly chemistry and so I

decided to pursue a career in Pharmacy. As part of the Transition Year programme I had completed work experience in his area and this helped with informing my decision also.

In October 2000 I commenced my Pharmacy studies in Trinity College Dublin. The areas I studied were Pharmacology, Pharmaceutical Chemistry, Pharmaceutics, Practice of Pharmacy and Pharmacognosy. There was also a general science component in first and second year where physics, biochemistry, microbiology and maths were incorporated into the syllabus also.

I graduated with a First Class B.Sc. (Pharm) degree in 2004 and was awarded a Trinity Medal and Medal for the highest score in Practice of Pharmacy in my year.

In October 2004, I started work as a Pre-registration pharmacist (now known as a Pharmacy Intern) in Tallaght University Hospital. This year involves learning the skills required to becoming a pharmacist capable of working independently. Up until 2020 this is a paid position which can be undertaken in community or hospital pharmacy for 12 months or can be split 6/6 months incorporating an industry element. The course has since moved to a five year programme which incorporates this year and so will be different from 2020 as graduates will stay an extra year in University.

I chose to complete my year in a hospital as I wanted to try something different and I was interested in the area of clinical pharmacy practice. I thoroughly enjoyed my pre-reg year and decided a career in hospital pharmacy was the path I wished to go down.

TUH offered me a position when I achieved my Pharmaceutical Society of Ireland license in 2005 and I have worked there ever since!!



I am now qualified 12 years and have continued my professional development with courses throughout my career. Most recently I have done courses in opthamology and in ultrasound. I have also recently completed the first half of a certificate in small animal medicine with UCD.

The evolution of the veterinary profession with the advancements in diagnostics, surgical techniques and pharamaceutical developments makes this a very exciting and rewarding time to work in the veterinary sector as I get to see immediate benefits of these advancements and the differences they are making in the lives of patients.

road to Tullamore in Boora. In Bord na Mona, I was classed as a civil engineer but my project management skills were still very much in play. The main contract I worked on in my time in Boora was for National Parks and Wildlife. There are numerous state owned bogs across the country that the European Union has designated as either Special Areas of Conservation (SPAs) or National Hertiage Areas (NHAs). Our task was to procure contractors to rehabilitate these bogs back to their natural state and preserve them.

In August 2018 Bord na Mona began to restructure the company due to the changing world energy business. Bord na Mona had been burning peat for energy for over 60 years and It was time for them to change. During this restructure I wasn't sure whether I would lose my job or whether I would get an opportunity elsewhere. Thankfully I claimed a job in Bord na Mona's subsidiary Bord na Mona Powergen. Powergen are the renewables energy arm of the Bord na Mona family. It was always my goal from when I completed my dissertation in 2011 to work in renewable energy. I am now one of the civil engineers within the Powergen Construction team working on key strategic windfarm projects. I will be the resident engineer on Cloncreen Windfarm once the project begins next year. Cloncreen Windfarm is a 21 turbine windfarm situated between Mountlucas Windfarm and Edenderry Power Station. My career has had its ups and down so far and I've gone my own, somewhat long way about it but I feel I've gotten to my goal and now it's time to start setting some new goals.

Engineering is a very male dominated industry and coming from a 600 plus girls school in Tullamore, it was a culture shock. You do have to stand your ground and make sure you are heard. There are different ways of going about this and I'm very much for the approach to get to know everyone you work with and make sure you know their name where they're from and what gaa club they are from always helps. If you are approachable and respectful it will get you a long way in this industry. You don't have to be the loudest to be heard.

I completed my M.Sc. (Hosp Pharm) in December 2007 and this upskilled me further as a Hospital Pharmacist. This was a two year taught masters completed while I was working.

I have undertaken many roles over the last sixteen years. I have worked on medical and surgical wards providing medication reconciliation, patient counselling, medicines information and discharge planning. My work also incorporates dispensary work, provision of an on call service and out of hours weekend service. I also spent some time working as the Intensive Care Unit pharmacist. I have received training in the aseptic unit which is responsible for compounding of chemotherapy also.

My more recent roles were Dispensary Manager and Pharmacy Clinical Services Manager. These roles involved managing a large group of people and planning project roll-outs and service development. The team were awarded a Helix Health award as Pharmacy Team of the year in 2015 due to innovative work we had carried out in the area of medication reconciliation and expanding the role of the pharmacist. Studies surrounding this work have been published in peer reviewed journals also.

Currently, due to family commitments, I work three days per week as Deputy Clinical Pharmacy Services Manager. I have a clinical and dispensary commitment and I also provide training to new pharmacists and partake in project teams in the hospital as required. Some of these projects would support diploma and M.Sc projects.

I have an obligation as part of my pharmacy license to undertake CPD and I engage with the the IIOP (Irish Institute of Pharmacy) to ensure I meet best practice standards.

Overall, I feel I have had so many opportunities in my chosen career. I can see how the profession could evolve over the next ten years and I look forward to welcoming new people in to this area and assisting in any way I can to furthering the profession towards the many avenues that are potentially open to us.

Ellen Norton: Actuary

I always knew Maths was the area I wanted to pursue a career in. Leaving

wake of a recession, my main focus was to do a course in Mathematics with high employment opportunities. I chose to do a degree in Actuarial Mathematics in UCD. I currently work as a Trainee Pricing Actuary in New Ireland Assurance. New Ireland Assurance is the life insurance subsidiary of Bank of Ireland. Day to day, I use my knowledge of probability and statistics to carry out a range of tasks. These tasks include analyzing the company's past claims experience, pricing premiums and forecasting investment performance. Two of the three senior actuarial managers on my team are women, which I find very inspiring!

Laura Maye: Lecturer, Computer Science and Information Technology UCC

I always knew I was interested in computers and technology, but I didn't realise that I would like to continue a career that involves technology. During my undergraduate degree (Music, Media and Performance

Technology) at the University of Limerick, I completed subjects in computer programming, artificial intelligence, and electronics. I quickly became fascinated by technology and continued to immerse myself in new programming languages in my free time. I am now in a field called Human-Computer Interaction, which involves understanding how to design technology for people and how people interact and respond to new technologies. Additionally, I am a Lecturer in Computer Science at University College Cork where I teach programming and human-computer interaction to undergraduate students. I find the job really hands on and interesting. One of my core goals as a teacher is to show students that programming is approachable, fun, and can be a really useful skill no matter what your field of study. I have ambitions to bring more younger people into programming, especially since I came across my love for programming by chance!

Anna Carmody: **Educational Technologist**

I'm Anna, a past student of The Sacred Heart School and I am the Founder of an Educational Technology startup called Little Red Edu. I am a STEAM (Science, Technology, Engineering, Art and Maths) advocate and passionate about the girlsintech initiative along with Techlreland (which I am also a member of) TechIreland promotes the facts and figures in investment for Female Tech Founders to help change the system as currently women in tech are under paid and struggle acquiring investment. Girlsintech promotes women getting involved in a career in technology as there is a very low number of females within technology around the world.

If we look at class structures in schools, through the system girls are not encouraged to move towards science subjects and technology subjects such as tech graphs. As a result girls do not get the opportunity to reach their full potential in STEAM education. Funnily enough, many of the biggest computer and technology inventions were created by women such as, Ada Lovelace with the first computer algorithm and Hedy Lamarr with wireless transmission technology. Without these two ladies we wouldn't have laptops, phones, computers or even Wi-Fi. Unfortunately our society has pushed women out of technology. (There are facts and figures on girlsintech website if needed www.girlsintech.com

With Little Red Edu, I hope to encourage girls into the STEAM areas to help fill the gender gap. Our products infuse new modern technologies such as augmented reality to enhance learning experiences and help students reach their full potential. We also design for inclusion as we believe children with all learning abilities deserve to have the best chance in education.

The values of my business directly come from my own experiences in education. Due to a learning disability, I found school to be a challenge so I wanted to create better learning experiences for young students like me. If I were to call myself something it would be an Entrepreneur, Author, Product Designer and Edtech Founder

https://youtu.be/0rAbylCphUkTED talk on adding a to STEM (a lot of people are now changing the term to STEAM to highlight arts importance as this too has been pushed down by the system - great TED talk on this also linked below:

https://www.ted.com/talks/ken_robinson_says_schools_kill_creativity?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare



Hannah Prenderville: Medical Researcher

Currently doing a PhD in Medical Research



my PhD in Trinity College Dublin. My funding is from the Irish Research Council and I was awarded a medal for the highest ranked scholar in the STEM category the year I got this grant I got the opportunity to complete part of my PhD over in Harvard Medical School.

I am investigating the impact of weight loss on the immune system of obese mice and humans. I isolate these immune cells from the blood of obese people. Then I bring these cells to a machine where we can see exactly what cells we have. I then use this machine to take out the cells I am interested in so we can look at what proteins these cells are making and if there are any differences in these proteins when these individuals lose weight.

Hannah Reilly: **Mechanical Engineer**

I started studying Mechanical Engineering in UCD after completing my Leaving Cert in the Sacred Heart, Tullamore in 2016. My favourite subjects were always Maths, French and

Music yet hated science for the first few years of school so had never considered Engineering when I was younger. I was always drawn to the idea of studying

Lucy Prenderville: Nanoscientist

For as long as I can remember, the phrase 'curiosity killed the cat' never really sat well with me. I have always believed that the act of being curious should be encouraged and celebrated. Just think of how less advanced our technological world would be if so many of the **Oilbhe Lawlor: Supplier Quality Engineer**

> Hi, my name is Oilbhe Lawlor and I am a Supplier Quality Engineer II, working at Boston Scientific Corporation (BSC) in Galway. So, I'll go back to the start to explain how I ended up in my current role.

In 2000, I applied to Athlone Institute of Technology for the Applied Biology

Certificate, which was a two-year course. I loved every minute of the course as it allowed for exploration of different aspects of Science that I had never studied before, and allowed me to understand the interconnectivity of physics, biology and chemistry. I knew once I completed this course that I was hooked.

Following completion of the Certificate in Applied Biology, I went on to complete the Diploma and Higher Degree (Hons)

in Toxicology at AIT. I graduated in 2004 with this degree. Toxicology is a scientific discipline, overlapping with biology,

chemistry, pharmacology, and medicine, that involves the study of the adverse effects of chemical substances on living

organisms and the practice of diagnosing and treating exposures to toxins and toxicants. We studied subjects like

Ecotoxicology (effects of toxins in the environment), Immunology (human immunity studies) and cell and molecular

biology, amongst other things. Although this course was intense, it was so very interesting and intriguing! The class spent

about 15 hours a week in the lab and the rest of the time in lectures, allowing the students to gain experience through a



Orla McManamly: Actuary

I was really uncertain as to what I wanted to do when I was leaving the Sacred Heart School, but I decided on Actuarial and Financial Studies, submitting my CAO form on the last possible day for applications and finding myself in a class of mainly young males in UCD a few months later! For me, I didn't want to commit to a niche area too soon, and I wanted to maximize my opportunities by undertaking a degree which would give me the chance to develop a



transferrable skillset for which there were challenging career opportunities and within which there was good scope for continuous growth and development. With several years of experience in the actuarial field, I am relieved to say that my CAO choice has delivered all of those fronts.....and more!! Actuaries assess the likelihood of uncertain events and use their mathematical skills to assist with planning, risk management, governance and financial analysis in a variety of industries and settings. Although the profession has a relatively small population in Ireland, it is a well-regarded and sought-after gualification, through which one can undertake many varied roles and responsibilities. Ever wonder how likely you are to live to age 100? Ever wondered how likely it is the Zika virus will lead to a huge global health crisis? Ever thought about who funds the rebuilds when raging bush fires are finally guenched? Well, my tasks involve answering some of those questions! In my experience, there is rarely an 'average day', and that is one of the features I value most about my role. I work in the Life and Health Pricing department for a major global reinsurer, so our company deals with other insurance companies as their clients. As such, our customers are experienced professionals with data, technical expertise and local market knowledge galore, so communication and negotiation are core features of many tasks I undertake on any given day. Working in a global company, travel has been a huge feature of my professional experience to date. Liaising with colleagues in other offices across the globe occupies a significant portion of my time, and having worked in our Orlando office for over a year I can attest to the fact that mathematics is certainly a building block for many transferrable skills which are of relevance worldwide. Through my actuarial pursuits, I have traveled to London, Madrid, Bermuda, Boston, Nicaragua and North Carolina, with more on the horizon. These experiences deepen my knowledge of other cultures, markets and regulatory environments, but also highlight that numeracy can be used as a common 'language' worldwide! In the SHS, getting involved in the extracurricular side of things was always something which I valued highly. Early starts for choir and ticket selling for trad group concerts fostered discipline and time management skills which I rely on to this day. Framing my approach to work in the same way, I continue to look for chances to apply my mathematical skills in other situations – thinking of them as having applications not only at work but also in my hobbies! This week, Monday saw me tutor trigonometry in Dublin City with the Society of Actuaries in Ireland ("SAI"), Tuesday evening saw me attend a presentation on blockchain, Wednesday proved challenging when a work Sports and Social event had me out in the cold air of the IFSC for the 'Run in the Dark' and Thursday gave me a chance to catch-up with a peer with whom I am currently writing an industry paper for presentation at an SAI event in early 2020. As I see it, work highlights the skills you have but hobbies can afford you the chance to refine them in ways that pique your interest - adding variety to each and every week tool





secondary school in the

music as I played violin, or something like business or even just maths! When I was in TY, I spent a week in Trinity College Dublin partaking in a course for Science Week, aimed at encouraging students to look at science as more than just a school subject. We had speakers in from all areas, from one woman studying volcanoes (seismology) all over the world from Iceland to Chile, to a man demonstrating the physics behind dry ice before we all had a go making our own, to finally two people talking about engineering. The first was a woman working at the Intel plant in Leixlip, and many of us were first struck by her presentation showing the facilities (which includes a hairdressers, gym and even a 300-year-old orchard) around the plant. The way she described her job as a Senior Engineer started the train of thought in my mind that maybe, I could give science another chance in school. However, it was after hearing the next girl talk that I remember ringing my mum on the way home that evening telling her that I had decided to do Engineering. She was an Engineering student in TCD and as she gave us briefs on the projects in which she was involved, from calculating the energy efficiency of the walls in her own bedroom, to constructing an orbiting model of the sun, moon and international space station through code, I was intrigued.

When it came to choosing my subjects in 5th year, physics was still the only science subject I could bring myself to doing yet for the following two years, physics and maths were always my favourite subjects (though by far not necessarily my best!). There were times where I doubted whether engineering would really be for me, because typically I always imagined engineers to be men that had loved playing with Lego, taking anything apart just to put back together, or building things for fun. That was never me, but when I got to UCD I realised that I was one of many like that!

The lack of girls in my course was clear from day one when I looked around the lecture hall of 300 new students, most of whom were boys, and as we found out later the percentage of girls in our course was only 27%. I'm now studying a Masters in Energy Systems Engineering and I couldn't be happier that I chose engineering after school. The boy girl ratio really doesn't have as much an impact as I originally thought it would, and everybody is always so helpful and friendly. If anything, it's nearly better being one of few girls, as we've made such strong friendships that I know I'll always have. I'd encourage anyone to research it, and the opportunities for work are so varied, I can't wait to get into the world of work and represent women everywhere as one in STEM!

famous scientists were not particularly curious people. Life as we know it would be very different indeed. Science is a collaborative subject area where curious people from all over can inspire and help each other to learn more about the world we live in. To contribute to this pool of knowledge in some way, either big or small, is a dream of mine. This is what led me down the path to becoming a scientist.

I completed my undergraduate degree in Nanoscience in April and decided to continue straight into a PhD in September. I already had some lab experience from carrying out research internships; one in the School of Chemistry TCD during the summer of my 2nd year and another in the Department of Materials Science and Metallurgy, University of Cambridge during the summer after my 3rd year. I also worked in the

I am doing my PhD in the Magnetism and Spin Electronics group in the School of Physics TCD, under the direction of Prof. Michael Coey. I am being funded by the Irish Research Council, which covers my costs for a total of four years. In particular I am focussing on d-zero magnetism; an unusual effect in which certain materials display a strange magnetic response whose origin is still not completely understood.

The first two months of my PhD have involved a lot of reading, training

and preparation. I have however started to make some of my first

samples. Attached are some photos of me preparing a solution in the

lab. You can see that I am wearing gloves and a labcoat; being conscious

about safety is extremely important when working with chemicals. As

our group is a magnetism group, we are mainly interested in the

magnetic properties of our samples. We can measure the magnetization

of a sample using a special piece of equipment called a SQUID machine,

or Superconducting Quantum Interference Device. Using the SQUID we

can apply a magnetic field to our sample and measure the resulting

magnetic response. By changing the magnitude of the applied field we

I have a lot to learn but I am very excited to see what the next four years

can see how the magnetization response may change.

brings!

Coleman lab in TCD, School of Physics for 9 weeks as part of my final year project. I had three fantastic experiences - I was determined to continue with research.

great mix of theory and practical time. Once I graduated from this course, I was interested in completing a post-graduate qualification (e.g. Masters or PhD), but AIT did not have much funding that year so I joined the final year of the Degree (Hons) in Biotechnology. My class was the first year to complete this Degree at AIT, with 6 students in the group. Biotechnology is the study of biological processes which can be harnessed for industrial and other purposes, especially the genetic manipulation of microorganisms to produce things like antibiotics, hormones, etc. I found learning about the way in which DNA could be manipulated fascinating.

> I had hoped to move into Forensics (before the TV show CSI made it cool!) once I finished my studies, but it wasn't to be. I worked for a few years with start-up businesses who needed scientific research conducted and had been awarded a grant through Enterprise Ireland. This work mostly focused on Microbiology research, which I completed in research labs at AIT. From there I moved into working in the world Quality Engineering in the Medical Device industry, having worked with Tyco Healthcare (Tullamore) and SteriPack (Clara) and eventually on to Boston Scientific (Galway), where I currently work. The Medical Device industry focuses on development, testing and release to market of various devices that help to improve patients lives. Devices like heart valve replacement therapies, stents for the heart or blocked blood vessels, catheters, knee and hip replacements, pacemakers are all developed and manufactured by Medical Device companies. The role of a Quality Engineer in this type of industry is to ensure that devices are designed and manufactured to the highest quality standards to ensure that there is little or no risk to the patient or physician who utilises the device. Our role is essentially to safeguard the patient against any errors, issues with devices etc. I like to think about how I would protect a member of my family or a friend, when doing my job, to ensure that top quality product is leaving the manufacturing facility. At the end of the day, everything that we do in this line of work could influence a person's life. And of course, the aim is to influence others health in a positive way.

> While my job (like most jobs) can be tough at times, the thing that I love most about it is that there is always more to learn. There are continually new avenues to explore and advancements in technology that allow for new ways to treat patients with a wide range of illnesses. I will never be bored in this line of work! And from my experience of working in various roles in Science and Engineering that is the case.

> The women who have taught me, mentored me, worked alongside me and been my managers throughout my career to date have all made a huge impact on me and my career choices. One of the biggest influences for me was my Sacred Heart School Biology teacher, Ms O'Doherty, who always encouraged me (even on my giddy or chatty days in her class). I think that her enthusiasm and passion for Science inspired and sparked my curiosity for all living things, and I will never forgot her for that. I am proud to be a woman working in STEM and I hope that someday you will be too!

Internal meetings, Excel-based modeling, analyzing population data, producing research papers and competing with my Fitbit to get 10,000 steps per day also feature in my work week, but to varying degrees depending on the extent to which we have a transaction to execute, a presentation to deliver or project deadline to adhere to. No two days are the same, but the skills I use to successfully navigate

the (literal) uncertainties I encounter daily are grounded in my numerical reasoning abilities and mathematical skills initially developed during my SHS years. For me, mathematical capabilities and numerical reasoning are skills for success, which have applications in every setting and sphere of life, and which have certainly led me down a stimulating and interesting path – hopefully with more adventures to come!

In summary, for me, maths means.... Maximize opportunities, Actuarial work, Travel (more done, and more to do!!), Hobbies, Skills for success