<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science as a family friendly job - Dr Andy Wakefield</td>
<td>Page 1</td>
</tr>
<tr>
<td>Fusing Family and Science: a challenge and an opportunity - Dr Elizabeth Clare</td>
<td>Page 3</td>
</tr>
<tr>
<td>What a difference a mentor can make - Dr Graziella Iossa</td>
<td>Page 5</td>
</tr>
<tr>
<td>Studying for a PhD as a mature student and combining it with the arrival of a baby - Dr Karen Varnham</td>
<td>Page 7</td>
</tr>
<tr>
<td>Navigating an international science career with family life – Dr Martin How</td>
<td>Page 8</td>
</tr>
<tr>
<td>Coming up with a successful Plan B – Dr Nancy Jennings</td>
<td>Page 10</td>
</tr>
<tr>
<td>Life as an overseas student in Bristol – Dr Nermin el Semary</td>
<td>Page 12</td>
</tr>
<tr>
<td>From a Biology undergraduate in Colombia to a lecturer in Bristol – Dr Patricia Sanchez-Baracaldo</td>
<td>Page 14</td>
</tr>
<tr>
<td>The rewards of working outside the University Environment – Dr Rachel Gibson</td>
<td>Page 17</td>
</tr>
<tr>
<td>Technicians are vital to the smooth running of a Science Department – Ms Sue Holwell</td>
<td>Page 19</td>
</tr>
<tr>
<td>From scientist to practitioner to scientist again - Dr Kate Pressland</td>
<td>Page 21</td>
</tr>
<tr>
<td>Dr Mark Steer</td>
<td>Page 23</td>
</tr>
<tr>
<td>Degrees, kids, a travelling fellowship, encounters with venomous snakes and a bus crash – as described by Plant Sciences Facilitator Helen Harper – Dr Helen Harper</td>
<td>Page 24</td>
</tr>
</tbody>
</table>
**Science as a family friendly job**

*A career in Science is frequently viewed as family unfriendly – highly competitive, with long hours and not much time for life outside the workplace. A Senior Teaching Associate explains that in reality the opposite can be the case.*

**Dr Andy Wakefield**, Senior Teaching Associate, School of Biological Sciences

It's a pleasure to be asked to write an article on my career and how I have combined it with family life. I have to admit that the term 'career' has always seems a bit alien to me, I have lots of interests and consider myself to be a bit of an opportunist. Since graduating in 2008 I've earned a living as a chef, a filmmaker, a science presenter, a volunteer co-ordinator, a wild food foraging instructor, a field researcher, a PhD student and I'm currently employed as a senior teaching associate within the school of biological sciences.

I was only 22 months into my PhD when my daughter was born. Once I'd exhausted my two weeks of statutory paternity leave I returned to my studies to continue providing an income for the three of us. The flexibility of managing my own time as a student was invaluable for maintaining an effective work/life balance. Not having to adhere to a 9-5 was priceless after a night of crying and nappy changes!

However, once my wife's maternity payments stopped we quickly realised that my PhD stipend payments weren't going cover all of our outgoings. So, after a few helpful meetings with my supervisors I made the decision to start applying for jobs after just two and a half years of my PhD. Luckily for me a teaching position became vacant in the building and I started a few weeks later.

A year later and I was glad to learn that work flexibility is almost as good for staff as it is for postgrads. We’re expecting the birth of our second child in just over two months and despite statutory paternity leave remaining pitifully short, I will be taking some additional unpaid 'parental leave'. By combining this with some seasonal university closure dates and some of my annual leave allowance, I'll get almost two months at home with my wife and children over the festive season. This is fantastic for me as I get to witness more of those precious moments in my kids’ lives. It is important for my wife because it allows for division of labour at home and therefore less stress and more rest exactly when she needs it the most. It’s great for my daughter too as it means I can spend more time with her to make sure she doesn’t feel isolated when our new arrival starts taking some of her mum’s attention away from her.
This situation is only made possible with the understanding, cooperation, flexibility and support of my colleagues. This positive working environment is surely fundamental to a healthy work/life balance and in turn this is one of the key reasons why I value my job so much. The word 'career' is starting to have more resonance with me after all.
It’s not easy to balance a family and a career in science. Being a faculty member and an active researcher is not always easy with a baby at home. But sometimes those same challenges can come with flexibility and opportunities.

Dr Elizabeth Clare, Lecturer, Queen Mary University of London

Last night my daughter (14 months) kept me up for about two hours in the middle of the night. We just moved house, she has a cold, and she was having trouble sleeping. We spent a long time cuddling. It’s not easy being a mom. All the same time part of me was also calculating the 5 hours I’d spend commuting to and from work during reading week just to attend my lab meeting the lectures that still needed to be written and admin tasks waiting. It’s not easy being a faculty member. At lots of points it’s hard to figure out how to balance work and life, and I’m not sure I agree with the phrase. I don’t want to balance them. I want to be out in the field with my students helping them do their research; I also want to be home watching Annie discover a bubble bath for the first time. You can’t do it all.

I have loved science and nature and being outside as long as I can remember. My parents let me bring all sort of wildlife home for “study”. We had tanks of fish, boxes of bugs, carnivorous plants and the transient injured birds, baby squirrels, developing frogs and an endless menagerie of other flora and fauna that came and went from our home. I’m still always up for a worm hunting adventure with my niece and nephew. I spent my childhood summers fossil hunting, canoeing, hiking and photographing everything. After starting undergrad I began to travel including trips to china, work in Greece, and I’ve made dozens of trips to the tropics of Central America for research. Six years ago my husband and I relocated from Canada to the UK for my two year NSERC fellowship at the University of Bristol. I then received a faculty position at Queen Mary University of London.
and he a lab management position at Cambridge. So how then were we to start a family? Away from our family, working in two cities a long way apart in demanding jobs. It was not an easy decision, no time was “right” and in the UK system there was no “tenure” goal mark that the Canadian system always seemed to hold out as the turning point in a career when family became easier.

I consulted my former head of school at Bristol who said it was not worth it to wait. So we simply had Annie and decided that she would be part of our world, rather than changing our way of life. I did field work in Belize at 5 months pregnant and fieldwork in Texas at nearly 7 month pregnant. I attended a conference in California and gave a talk with a 6-week-old baby strapped to me. I taught a residential field course with Annie in a backpack when she was 6 months old. She’s played on my classroom floor and slept in a drawer I turned into a cot. She’s napped on my office floor. In her first year Annie has been on 6 trans-Atlantic flights with me.

Our faculty are very supportive of parents, and one of my colleagues even babysat while I when childcare fell through and I was to host a seminar speaker. Yes I miss things at work and I miss things at home, but the same challenges of academic life are also an opportunity. I’ve got a highly flexible working schedule so I can work hours that suit us, and can work from home when I have to. Skype has levelled the playing field. I’ve sent pre-recorded lectures to conferences; I’ve held lab meetings from my living room. I attended a workshop in Canada by skype at 9 months pregnant. Annie has readily adapted to the unexpected twists of our life and it has made her a very well-adjusted child always eager for an adventure and resilient to changes.

It’s not easy, but Annie is a happy, confident, adventurous and loves nursery school. I’ve finished probation kept up my publication activities and have a growing lab. Achieving a work life balance is never finished, it’s something we work at every day.
What a difference a mentor can make

A Biological Sciences alumnus reflects on her time at Bristol, her journey after she left and how the support of a committed mentor from Bristol helped her return to science after a career break.

Dr Graziella Iossa, PhD Alumni, School of Biological Sciences, University of Bristol.

http://staff.lincoln.ac.uk/giossa Giossa@lincoln.ac.uk

It is safe to say that without the encouragement and reassurance of my mentor at Bristol, I would not be where I am today. I came to Bristol University to start my PhD because the stint at research I had had during my undergraduate studies in the mountainous region of Abruzzo, in Italy, had been the happiest and most fulfilling part of my degree. It took me a year of trawling through libraries and the Internet to find and apply for the funding that eventually brought me to the UK.

When I started my PhD, I was assigned a female member of staff as an internal assessor of studies and she evaluated my yearly reports throughout my PhD. She struck me from the start for her enthusiasm and her tangible interest in my research. Once I finished my PhD I stayed at Bristol and gained a part-time postdoctoral position. By then I had met my husband who was in my same research group – and in my same research field – we got married and decided to start a family. During my first maternity leave it became apparent that continuing working in academia would be very challenging: my postdoc was only part-time and I felt it would be unlikely that my husband would find a position in Bristol or nearby if we both stayed in academia. After due consideration, I decided that my priority for me was our family and that fitting family and research would be practically unattainable. I took some career coaching via the university’s Career Service and decide to change career to scientific publishing.

At the same time, I had seen a new scheme advertised by the British Ecological Society of which I was a member, a Women in Science mentoring scheme. I joined the scheme and, accidentally, I was paired with my same internal assessor at Bristol, as we both had dependent children at the time. As my mentor, she was sad to hear that I wanted to leave academia but helped me put together a strong application when I saw a job as editorial coordinator for a new scientific journal. I feel very fortunate that I got that position which allowed
me to change career, I felt that publishing suited me better at the time. We moved first to London and then, during my second maternity leave, to Finland, where my husband had secured a postdoctoral position. My Bristol mentor and I kept in touch during those years mainly via email but also, once or twice a year, in person.

By my third maternity leave, my husband had secured a lectureship at the University of Lincoln, so we moved back to the UK. I really missed research, especially the variety of my work and the challenges that it brings, I felt out of place in my publishing job, which had been very rewarding in the past. Just before moving back to the UK I met with my Bristol mentor and I tentatively asked her whether she thought it would be too late to come back to science. Her reaction was enthusiastic and just the encouragement I needed to try to make a comeback. After a year maternity leave, I started looking around for the right kind of scheme and my mentor pointed me towards the Daphne Jackson Trust. However, while I was in the process of being awarded a DJT Fellowship, another similar scheme was advertised just on my doorstep, the Back to Science Fellowship at the University of Lincoln. I successfully gained my current Back to Science Fellowship.

As I come to the end of my two-year part-time fellowship and look at the future of my career, I can still hear my mentor’s words: “Don’t think of each job as ‘one-for-a-lifetime job’, your career will evolve with you, just enjoy what you do, the rest will follow”. I feel very privileged to be in my position and also realise that research – and academia – are possibly some of most family-friendly careers as they can allow true flexibility to successfully achieve a fulfilling work-life balance.
Studying for a PhD as a mature student and combining it with the arrival of a baby.

Not everyone studies for a PhD after a completing a degree and there are usually some mature PhD students in Biological Sciences. They bring with them a wisdom and a maturity which is highly valued. Here a Bristol alumni talks about why she studied for a PhD, how she had a baby along the way and how she ended up with her dream job.

Dr Karen Varnham, PhD Alumni, School of Biological Sciences, University of Bristol.

I’ve been a scientist since the day I started secondary school. Physics was my first love, then Chemistry until, by the sixth form, I knew that Biology was the one for me (and only partly due to the relative lack of equations). After my first degree I did an MSc in Behavioural Ecology, where I had a lecture that changed the course of my life – on eradicating rats from islands. I had always wanted to do something useful and I wanted to travel, and this seemed the perfect combination of the two. That was the beginning of my career as a self-employed invasive species consultant, a fantastically rewarding life which introduced me to some amazing islands, people and species. However, I’d always had a strong itch to do a PhD and when a project arose that fitted exactly what I wanted to do I seized the opportunity, moving to Bristol and becoming a full-time student again at the age of 36.

My PhD involved a lot of fieldwork on UK islands, first on Flat Holm in the Bristol Channel, and later on South Uist in the Outer Hebrides (which, it turns out, takes longer to get to than New Zealand). Having completed my data collection over the course of three field seasons, in the fourth summer of my PhD I had my son, followed by a year’s maternity leave. Both the university and my NERC studentship were very flexible about maternity leave and me returning to work part-time, and I completed my PhD almost exactly six years to the day from when I started it. Although I loved my time in academia I was well aware by the end of that time that my natural home was as a conservation practitioner rather than a researcher.

After graduating I decided against returning full-time to consultancy as the work was too unpredictable. I knew I wanted to go back to practical invasive species work, though I also knew that, with a small child, I was going to be able to do a lot less travel than before. So I took a part-time job in the Admin team in the new Life Sciences Building which gave me valuable breathing space to look around and find the right job. After a few months, I was incredibly lucky to get what is pretty much my dream job. I now work for the RSPB on a project on invasive species control and prevention on UK islands. It involves all the things I love – travel (albeit shorter trips than before), problem solving, training colleagues and generally working to raise the profile of the problems invasive species can cause and what can be done to help. I work from home most of the time and the time I save not having to commute to work makes a big difference. I also have some flexibility in the hours I work, meaning I can pick my son up from school some days and make up the additional time in the evenings once he’s in bed.

Science is a broad church and benefits from having a diverse range of people within it. Sometimes it can take a little while to find your place in it, and the place you want to be may well change over time. At different times in my career flexible, part-time and home working have made such a difference to me and allowed me to keep working – and contributing - in a field I love.
Navigating an international science career with family life

A career in science often demands significant mobility, especially for young researchers who need to move around the globe, gaining valuable experience in different academic environments. The lack of geographic stability is often a breaking point for young researchers, because it can be incompatible with family life. A Royal Society Research Fellow in Biological Sciences explains how he and his partner dealt with such instability, and how he plans to take advantage of the Royal Society’s flexible and part-time working agreement to accommodate family life and his partner’s return to work.

Dr Martin J How, University Research Fellow, School of Biological Sciences

I was set on my career path as a research scientist at an early age. From about 12 years old I developed a fascination with the underwater world, and knew then that I wanted to work as a marine biologist. I doggedly stuck to this obsession, studying biology hard at school (1997) and moderately hard at University (between partying and sports!). My wife (then girlfriend), Molly, and I met towards the end of our undergraduate degrees (2000) and so we have shared the journey of combining two different careers from an early stage.

After undergrad, I sought further studies in the form of a Marine Science MSc degree in Plymouth (2001), followed by a year working for a local marine charity, the Shark Trust (2002). During this time Molly secured a graduate training job at Tesco.com north of London, and so began the first long distance phase of our relationship. We saw each other most weekends, and it worked well, alternating between me spending time in the exciting city of London every odd weekend, and Molly spending time in the quiet Westcountry every other weekend.

Towards the end of my time at the Shark Trust I started to think about doing a PhD. I contacted lots of labs and applied for many positions, but this was one of the most frustrating stages that Molly and I tried to navigate through life. Nothing came up in the UK, but eventually I found a PhD in Australia. One of the biggest decisions we had to make together was whether to go for this opportunity with a view to continuing a (really) long-distance relationship for anything up to 3-4 years, or to turn it down. In the end I did take up the PhD position (2004) and for a year I studied in Canberra while Molly worked in London. Then Molly managed to secure a scholarship to do a Masters degree of her own in Canberra (2005), so finally we were together in the same city, for the first time in 3 years. We ended up staying in Australia for 10 years, three in Canberra, two in Sydney and five in Brisbane, getting married in 2010.

Although rewarding in many ways, living overseas also created challenges for us to overcome. We lost touch with many friends and family back home, and, after starting a family of our own (our first born in 2012 and second in 2014) we decided to move back to be closer to the kids’ grandparents. At this stage Molly had
finished working in business and was looking after the children full time, so we had only one career to move. I managed to secure a postdoctoral position (2013), and later a fellowship (2016), at the University of Bristol, where we have settled for the last 3 years.

Combining a career in science with family life has not been straightforward. Even before children, the many years of study followed by the uncertainty of employment and geographic location made the process challenging. In particular, engineering a career path that puts me and my wife together in a location where we could both find work was difficult. Our future goal is to navigate a route for Molly to return to work once both children have reached school age. My funding body, the Royal Society, provides the opportunity for its research fellows to spend periods working part time (as low as 3 days a week), and I anticipate doing this for 6-12 months to ease this transition.
Coming up with a successful Plan B

It’s always good to have a Plan B in life and the blog below shows how the skills acquired during PhD and post-doctoral training can be used to run your own business. In reality, it usually takes a number of interviews before an academic job is won, so bad timing for one of them (as below) can be overcome, but the mobility problem remains a challenge for many young scientists. The good news though, is that once you have an academic job many people stay put for the rest of their careers. So while it’s difficult, it’s often a one-off difficulty and then you can settle down for 20 years plus.

Dr Nancy Jennings, Dotmoth: independent support for scientists, http://www.dotmoth.co.uk

After a hotch-potch of an education – primary school in England, secondary school in the Netherlands, and a year in the USA – a gap year spent working in the research department at Dolfinarium Harderwijk, a marine mammal park in the Netherlands, sealed my fate. I wanted to become a research biologist; I had enjoyed weighing fish, training sea lions and testing their skills at identifying shapes, analysing data on the tactile skills of walruses, and collating archive data.

I went to Durham for my degree, and afterwards looked for a PhD in ecology. I was offered a place in the Bat Lab at Bristol in 1992. My tutor at Durham urged me to accept, and said that Bristol was definitely one of the best places to study terrestrial ecology. I soon found myself surrounded by extremely clever and inspirational people who were truly passionate about biology. It was hard work, but brilliant!

After my PhD I applied for postdoctoral positions and other jobs. I ended up working as a commissioning editor at Imperial College Press, but I really wanted to swap places with the academics I was commissioning books from. So when a postdoc came up at Bristol, I took it, and worked on hares for five years in the Mammal Research Unit. Then I applied for and won my own funding from Defra, to work for three years on bioindicators of agricultural change – mostly shrews, insects and bats.
By this time I was married, and I was pregnant with my first child when my dream job was advertised: a lectureship at Bristol. I was shortlisted, and luckily the interviews were scheduled before my due date: I would be heavily pregnant, but I wouldn’t have started maternity leave yet. Then the interview date was changed so that I had to attend five weeks after my baby was born. It was extremely hard – my life had changed with the birth of the child, I was severely sleep-deprived, and leaving my baby with someone else for the first time was challenging. The interview is a bit of a blur, but I remember being asked which of my publications was the most important, and looking at the list as if I was reading it for the first time. Needless to say, I didn’t get the job.

After maternity leave I was unsure how I would feel about returning to work, but from the first day I loved it. I looked forward to seeing my child after work, and the time I spent with her was precious. But after a few more months as a postdoc, my contract, and my job options, ran out. I remembered some good advice I had been given: try to fit a career around family life, and not vice versa. I accepted that I was not free to move around the country (or the world) for a job. So, in 2007, I became self-employed.
Life as an overseas student in Bristol.

Nermin el Semary came from Egypt to start a PhD in Biological Sciences. She fitted in having a son alongside her research and is now a professor back in Egypt supervising PhD students of her own. As she points out there are advantages and disadvantages to everything in life – you don’t have as much time to spend with your children if you work, but at the same time there are some extra experiences for a child with a working mother. There are without doubt some extra challenges to being a PhD student from overseas, but ones that Nermin successfully navigated during her time in Bristol.

Dr Nermin el Semary, Associate Professor at the Botany and Microbiology Department, Faculty of Science, Helwan University, Cairo.

My experience as a foreign Muslim postgraduate in Bristol was very interesting. I was already a wife when I first came to Bristol on a Scholarship funded by the Egyptian Government. I was starting both my PhD and my pregnancy with my first son Mostafa. I had to go on regular check-ups and to do research and attend courses as well.

The first year to say the least was a struggle, however things started to brighten once I had my son. The support given to me by my supervisor Professor Paul Hayes and some of my colleagues was truly uplifting. I started to really settle in to my life as a student and as a mother and to split the care of my son between myself and my husband. I maintained a fine balance between my life as a student and as a wife and a mother in a foreign country with no relatives to help and with some stereotyping to endure.

Nevertheless I enjoyed the challenge and found it quite stimulating and it truly enhanced my self-confidence and creativity especially when it comes to problem solving and time management. It is all about time and how to make the most of it. I had my moments of despair, especially when lengthy techniques fail to work but never gave up. Also I had some traumatic times on the social front but thank God was able to turn things round.

I successfully managed to complete my PhD and returned to my country to work in my university back home. Since finishing my PhD I got actively engaged in both research and teaching and that did not leave me much time to enjoy my son’s precious growing moments or to give him all the quality time he deserved. However he enjoyed travelling with me abroad when I went several times on research travels. Interestingly that helped him to gain more experience in life and to develop his own character at a very young age. He knew what to do and was quite dependable and responsible.

I was awarded later several prestigious research awards from my university my country and the African union and was blessed to have my second child Yasmeen many years later after having Mostafa I was also
appointed as a professor last year and was the supervisor of nine postgraduates who were all awarded their degrees successfully. I had my ups and downs but Thank God I always kept my good spirits and morale. I truly think that keeping a positive attitude helps in dealing with life challenges. Wasting your time and energy on arguments and conflicts can truly put you down and the best way is to minimise exposure to these and to concentrate on your family and career. Always work on your family life as if it is your PhD to make it work well.
From a Biology undergraduate in Colombia to a lecturer in Bristol.

There are many ways to become an academic. In what follows below, Patricia Sanchez-Baracaldo takes us through her journey from an undergraduate to a lecturer, this involved a career break to have two children and change continents. She came back into Science with real style via highly competitive research fellowships which gave her the time to develop her own research programme. It’s often challenging combining family life and academic life, especially when you are moving around the world. But Academic life can provide a real flexibility that is really helpful when children are small. Thus as long as quality work gets done, it can be done to suit your timetable a lot of the time.

Dr Patricia Sanchez-Baracaldo: Royal Society University Research Fellow, School of Geographical Sciences, University of Bristol, https://sanchezbaracaldo.wordpress.com/

Science subjects always fascinated me from a young age. I did my undergraduate degree in Biology at Los Andes University in Colombia. Evolution and genetics became my passion after visiting the US and taking a course with Prof Lynn Margulis at the University of Massachusetts. Lynn was very engaging, inspirational, and I was completely taken by her research. After this experience, I was convinced I wanted to pursue a doctorate degree in evolutionary biology. Following my undergraduate degree, I was awarded a fellowship to work at the Smithsonian Tropical Research Institute in Panama, where I learnt molecular phylogenetics. I was accepted to do a PhD on plant evolutionary biology at the University of California, Berkeley. Studying at Berkeley was probably one of the best experiences of my life. It is fair to say that my career path until this point was fairly straightforward.

At the end of my PhD, I moved to Bristol since my husband worked at the BBC Natural History Unit. It was difficult to give up a postdoctoral fellowship at Yale University working on fern development. Instead, I took a postdoc in the School of Biological Sciences at Bristol on a completely different area of research: molecular ecology of cyanobacteria. It meant that I had to start all over again; new organisms, field, country, academic system and contacts.

During my postdoc, I pursued my own interests and I started working on the evolution of cyanobacteria. Changing research fields after my PhD made my career progression very slow. I still tried to pursue the work I had started as postgraduate student on ferns, by applying for fellowships at Oxford, but this did not work out the way I wanted. While, I eventually managed to secure funding from the BBSRC as a named researcher to pursue my fern development work at Oxford. I decided to stay in Bristol, partly because by this time, a new family member was on her way. It was not long before our son arrived too, only 18 months later. At this point, I decided to leave science all together. It seemed like the sensible thing to do, and I was happy to try other options. My husband and I did not have any family nearby to help with childcare. During my career break I worked part time in several projects from science administration, consultancy and public engagement.
Years later, the idea of going back to science arose after three people mentioned it within the span of three weeks. I had not realised that there were opportunities for women who had taken time off from science to look after their young families. I looked into the Daphne Jackson Trust Fellowship; their programme has an element of re-training. I thought this opportunity would be ideal because it meant that I could design my own project and retrain in an area related to climate change. Taking time off from science had revaluated my research interests. Suddenly, the prospect of going back to science seemed very exciting. While the prospect was exciting, at the same time, it was daunting, and it felt almost impossible.

My way back into science was possible, thanks to what I had discovered as a postdoc: Cyanobacteria (the first organism to produce oxygen as the by-product of photosynthesis) first evolved in freshwater environments, not in marine environments, as originally thought. A freshwater origin for cyanobacteria has huge implications for understanding the early carbon cycle. By working with Prof Andy Ridgwell, in the climate change group in the School of Geographical Sciences, it meant that I could look into the biogeochemical implications of freshwater origin of cyanobacteria for the early carbon cycle.

The project I wrote for the Daphne Jackson Trust was equivalent to one-year full time project with some retraining. Since, I already knew I was going back to Science, I decided to write down all the ideas I was having by reading papers in a new field. I turned all these new thoughts into a bigger fellowship application that I later submitted to NERC and the Royal Society. I heard about the outcome from the Daphne Jackson Fellowship and the Royal Society Dorothy Hodgkin in the Summer of 2011 - to work both in Biological and Geographical Sciences. I was so delighted to hear that I was awarded a 5 yr Dorothy Hodgkin Fellowship; only six people received fellowships that year with a success rate of 3.5%. After a career break of about five years, I had the feeling that some senior academics doubted my ability to get back into science. This, however, made me even more determined to succeed.

The Dorothy Hodgkin fellowship allowed me to properly get back into science. I felt incredibly lucky to have the flexibility and freedom to pursue my ideas, while still having the flexibility to focus on my young family. It was very challenging to retrain on my own, and to learn all the latest developments in phylogenetics and phylogenomics. But I also found some very supportive friends and colleagues. At the same time, it was a lot of fun to share an office with people working on different aspects of climate change. Interacting with people working on ocean biogeochemistry allowed me to make some breakthroughs during the early part of my Dorothy Hodgkin Fellowship on the origin of marine planktonic cyanobacteria and the oxygenation of the oceans. Last year, I secured a Royal Society University Fellowship and a proleptic lectureship to continue my work on the origin of photosynthesis, genomics, evolution and global nutrient cycles.

It has been a long journey, and at times a difficult one. It is hard to balance family and a career in science. But working in academia also provides a lot of flexibility. The Royal Society has also been incredibly supportive, and
this has made a huge difference in getting back into science. I get a lot of satisfaction, doing what I do now and, I feel lucky to be able to pursue my own intellectual curiosity.
The rewards of working outside the University Environment.

Most PhD students go on to work outside of academia, indeed much of the transferable skills training now in place for students is there for this reason. Here a Bristol PhD alumni explains how she ended up doing a Science degree and PhD and talks about the rewards of using her research skills outside of a University.

Dr Rachel Gibson, PhD Alumni, School of Biological Sciences, University of Bristol.

I have been fascinated by the natural world for as long as I can remember (I recall announcing to my parents that I wanted to be a marine biologist or a ‘naturist’ when I grew up, much to their amusement). Despite this early interest I dropped all scientific subjects at A level, which with hindsight was probably a result of a combination of a lack of confidence, lack of role models in science amongst family and friends, and an uninspiring GCSE syllabus (the only practical I remember in biology was watching pondweed respire).

However, I eventually realised that I wanted to study biology, and so got myself a place on a degree course. This opened the door to some of the best times of my career and my life. It’s not an exaggeration to say that the course completely changed my perspective on the world. After I graduated I knew I wanted to carry on learning about ecology, and I found a field assistant post for the summer, sampling pollinators in a hay meadow. This led to a series of short-term contracts assisting in the lab and field on various projects and writing my first journal articles. After a few years it became clear after a few years that to carry on in science I needed a PhD.

At the end of the second year of my PhD, I became pregnant. After my son was born, I took 10 months off from studying and then came back part time. After handing in my thesis I was offered a postdoc on an amazing project, and I was thrilled to be given the chance to continue researching a topic that I loved. However, I wanted to work part time, and the project would have involved long, intensive field seasons which would not have worked as a part-time role. I eventually decided to leave academia. The reality of having to do several consecutive postdocs in various parts of the country/world did not fit in with my home life, with a working husband, a small child and stepchildren still in school. Although it was a difficult decision, I was also excited to try a career outside academia, as long as there was some scientific element to the work.
I started my current job, at the Environment Agency, while I was still doing my thesis corrections. It was a big challenge to do this while getting to grips with my role in an organisation of over 10,000 people, and looking after a toddler. Working here has been a great experience so far, even though I used to think I could never work in an office all year round! I’m lucky to have an employer that supports flexible working, and tries to be as diverse and inclusive an organisation as possible. I’ve had various working patterns over the years, which have allowed me to co-ordinate work and childcare responsibilities in a relatively pain-free way.

My work involves synthesising evidence on a wide range of environmental topics to produce Evidence Reviews, and also Horizon Scanning for new and emerging environmental issues. I’m now on an assignment to a different team, co-ordinating a partnership programme for UK and Irish environmental regulators to collaborate and share the results of their research. It’s very interesting to now be working on the ‘outside’ of the research world, looking in, and to develop my skills in influencing and communicating to maximise the benefits of research and get the results out to a wider audience.
There are all sorts of jobs in the world of science and providing technical support for teaching or research is an interesting, varied and fulfilling one. Below is an account of how the job has changed over the years, the challenges that need facing today and how it provided the flexibility needed when having a family.

Sue Holwell, Teaching Laboratory Manager, School of Biological Sciences, University of Bristol

It’s a bit daunting to being asked to write a blog about your career when, working alongside so many eminent academics and researchers, you are one of the few people in the School without a degree!

After making a pretty dramatic U-turn somewhere during my ‘O’ levels, science won out and my aspirations of doing needlework and becoming a fashion designer were relegated to a hobby.

Discovering I wasn’t very good at ‘A’ levels, my hopes of studying Agricultural Zoology at degree level withered away. However – having always preferred the hands on approach to things anyway, I decided a technical qualification was the way to go. My two years spent at Plymouth Polytechnic studying for an HND in Applied Biology were the turning point when I realised that I loved the practical side of science.

Shortly after graduating in 1985, I was lucky enough to land my first ‘proper’ job in the Physiology Dept teaching labs here at Bristol. I truly loved my time there, making life-long friends, but jumped at the opportunity three years later to progress to running the 1st year Zoology teaching lab.

Life in Zoology in the 80’s was a fairly laid back concern where I discovered that a vast majority of my time was spent looking after the menagerie of ‘pets’ that I inherited from the previous lab techs! From scales and fins to fur and paws – we had them all! And I can’t not mention the pet lab rats Oscar and Milly who freely roamed the filing cases and cupboards of the prep-room.
After having my two children in ‘91 and ‘94 I was lucky enough to be able to reduce my hours so that I could spend valuable time with them as they grew. Unfortunately this did also have the effect of making me feel more remote from my job and also meant that I no longer had any extra time to assist on research projects with the mammal group where I had provided technical support for a number of years. However, being a mum was the most important job at the time, and I never regretted this compromise.

Apart from escalating student numbers and the dawning of the computer and emails, life stayed fairly constant until 2012. Preparations for the new building then picked up pace and I became involved in helping to shape the way technical support would be delivered in the new building, along with being an integral part in the way the new teaching labs would run. These were probably the hardest, yet most rewarding, years of my work life, but it came as a bit of a shock returning to full time employment.

I actually see my role as teaching lab manager here in LSB as my first real career move since 1985 and have enjoyed every single moment of it. I still can’t quite believe that we actually delivered successful practical classes in those first few months after the move. One of the positive results of the move, as I see it, is that the profile of technicians has risen significantly and I hope that this continues as research and teaching utilise the valuable resource that we belong to.

28 years down the line, and Biology is still a special place with amazing staff and students – and the more I have learned about other Schools, the more I realise just how lucky I am to be part of it. So I’m afraid that unless I win the lottery in the near future, the School is likely to be stuck with me until I retire.
From scientist to practitioner to scientist again

There is a well-documented gap between scientists and practitioners – of academics being from Mars and practitioners from Venus, with numerous papers about the Great Divide between the two. In reality though it’s possible to move between the disciplines career-wise and being able to talk both languages is a very useful skill, both from a solving the world’s problems point of view and from creating an interesting career too. Here Kate Pressland reports on a career that started with a degree and a PhD at Bristol University, followed by a four-year stint in a Conservation NGO and she currently works as a Research Manager for the Soil Association using her scientific skills to build bridges between what farmers want and what scientists can provide. This being done while maintaining a work:life balance that involves a partner and a toddler.

Dr Kate Pressland, Research Manager for the Innovative Farmers programme, Soil Association.

My father and brother were always fascinated in wildlife documentaries and what we could find in my dad’s pond, and this imprinted on me early on. After eye-opening gap year travels in Borneo (to see if this wildlife lark wasn’t just a ridiculous dream), I studied Zoology at Bristol. I loved studying for my projects but was terrible at exams so I left feeling a bit disappointed. Picking myself up, I luckily managed to get a field assistant position in Jane Memmott’s group through an old lab partner’s recommendation. After working on a project comparing conventional and organic farm food webs, involving masses of herbivore-hunting and plant identification, my colleagues encouraged me to think about PhDs. Being a field assistant on a big project helped me realise that you have to constantly learn, be a great team member, and put in the hard graft to be a scientist – being a genius at exams helps of course but certainly isn’t the only skill required. Luck struck again for me when a PhD came up in the department looking at the impact of releasing pheasants for shooting on invertebrates and plants. The topic was so interesting – pheasant shooting is a rather secretive business, yet an astonishing 38 million pheasants are estimated to be released each year. The PhD was challenging but rewarding, even with the 4am starts counting pheasant territories at sunrise.

I enjoyed investigating land management so after completing the PhD, I wanted to move from academia to practitioner. I realised that the gamekeepers I met didn’t read the academic literature, they did what their peers and families did, what Farmers Weekly or shooting magazines advised. They were, however, interested in what I could tell them was in the literature in language that cut to the chase. A position working for Avon Wildlife Trust as a project officer on wildflower grassland conservation and restoration came up. This was an opportunity to get straight to the farmers and help them make positive changes, albeit on a local scale. I was promoted to Senior Project Officer in charge of a conservation project on the North Somerset Levels and Moors working with farmers and organisations to improve water management in the region. It was great to get experience in another habitat and learn considerable amounts about working with stakeholders and the restrictions that come with conservation, research, and people’s needs of the land.

After four years of conservation work, talking to farmers and working with policy and agri-environment schemes, I was compelled to return to a more research-focussed role working intensely in agriculture, so I joined the Soil Association as
the Research Manager for their Innovative Farmers programme. My role in the programme is in supporting groups of farmers interested in trialling and developing more sustainable agricultural management. The farmers are in the driving seat on what they want to look at – I support their ideas development and then team them up with researchers from top agricultural institutions around the UK to help make their trials meaningful. The field trials act as simple pilot experiments that can lead onto larger research projects and have genuine impact and engagement through the process.

We now have a toddler which provides its own management challenges. I am fortunate that my organisation enabled my role to continue largely unaltered into part-time to allow a balance of life and work. It is hard to juggle everything and you feel guilt no matter what ratio of home and work you are able to take. I enjoy my work and found it is important to keep up to date with research and policy as it is always evolving. I know I can’t do everything - many an evening or nap time is spent working to catch up! When I’m at home on mum duty, we go on nature scrambles together. I guess I am hoping to do a little imprinting of my own.
Dr Mark Steer, lecturer in Conservation Ecology at UWE Bristol

Towards the end of my BSc I identified the career I wanted and then promptly spent the next few years moving further and further away from that goal. However, via a circuitous employment route, a certain level of opportunism and a goodly dose of luck, I’ve got there almost despite my initial efforts. I count myself as a very fortunate individual.

I am a lecturer in Conservation Ecology at UWE Bristol. In this role I get to work on research projects as diverse as the ecological importance of Greek seagrass to the optimisation of camera trapping networks in the UAE; I lead an MSc course in conservation and an annual expedition to Madagascar; I mix with intelligent and enthusiastic young people all the time; I’m employed to think/talk/study wildlife - all the time. Despite boundless bureaucracy and paperwork, it’s a very fulfilling job and could easily become all-consuming.

However, there is another part of my life that I didn’t envisage as I was finishing my degree: I am also now a dad to three wonderful young girls. In this role I get to be, by turns, a spaceship, a dinosaur, an ogre, a cook, a sage, and plenty more besides. My kids challenge me to see the world in myriad different ways and are a source of constant amazement and nauseating levels of paternal pride. Despite occasional tantrums and nigh on six years of nappies, it’s a very fulfilling job and could easily become all-consuming.

Keeping the balance between work and home life isn’t easy, there are times when it does feel like a constant juggling act and I end up short-changing everyone. Fortunately, my department does allow me a good deal of flexibility over the times and locations I work which helps massively, particularly now that my wife has gone back to work. Being able to cover some of the school drop offs and pickups, for instance, not only takes some of the stress out of having to find other care options, but means that I get to spend more time with my kids than I might be able to with a standard 9-5. It seems to me that academic jobs can be very good in this regard – as long as my work is getting done, I’m largely free to manage it as I want, and it’s down to me to be disciplined about how I balance it with my home life.

If there is one trait, more than any other, that helped me get into the career I dreamed of back in the late 1990s, it’s my inability to turn down an opportunity – even if it doesn’t look like the wisest move at the time. A PhD in theoretical behavioural ecology (bearing in mind I’m rubbish at maths): why not? Setting up a publishing business (bearing in mind my colleagues and I had no experience of publishing. Or business): let’s give it a go. Managing a portfolio of gap-year ‘conservation’ projects around the globe (bearing in mind I had no project management experience and hadn’t visited any of the countries the projects were in): bring it on! I’ve thrown myself into any number of deep ends... and drowned a fair few times. But every experience I’ve been through has given me something that I now draw on in my current role. Conservation is truly multi-disciplinary and while I may not have as strong a background in some aspects of the discipline as my colleagues, I believe that I complement their expertise with a different set of skills and opinions.

For me, in life it’s important to be adaptable, to be enthusiastic and not to worry too much about the future. Make opportunities. Do interesting things. Challenge yourself. Oh, and have kids someday – they’re awesome.
Degrees, kids, a travelling fellowship, encounters with venomous snakes and a bus crash – as described by Plant Sciences Facilitator Helen Harper - there are many ways to be a scientist and many experiences to be had along the way.

Helen Harper: Bristol PhD Alumni and Plant Sciences Facilitator

I grew up in London, a city girl but I was fortunate to spend my summer holidays in South West Ireland on my grandparent’s farm; roaming free with my cousins, exploring the hills, swimming in icy cold rivers and helping out with the farm work. This sparked a love of nature and an interest in agriculture.

My first degree (Biology) was from Cardiff University, there I met my future husband (Jamie), lifelong friends and learned how to get through the day on very little sleep after a night out (a skill which came into its own again after having babies!) I became very interested in molecular biology and between my 2 and 3rd year of University I spent a golden summer on a Sainsbury’s Summer Studentship in Long Ashton Research Station (LARS). Here I had my first taste of research, working on transposable elements in maize. I learnt many techniques during this time and continued the research into my 3rd year at University. After my degree, I went walkabouts with some friends, we travelled around the world, hiking, diving, exploring. I had the time of my life.

On return I was fortunate to gain a research position in Keith Edwards lab in Long Ashton, identifying molecular markers in maize and developing (what was at the time) high throughput genotyping methods. I then embarked on my PhD, during which I identified molecular markers associated with agronomic traits in wheat. Having had a few years as a research assistant I was in work mode and this continued through my PhD. I didn’t feel like a student, I treated it like a job. I also benefited from being a CASE student and spent time with a wheat breeding company which gave me a useful perspective on the commercial impact of our research. I had a strict deadline to adhere to as I had been awarded a travel fellowship. My partner Jamie had handed in his notice, flights to Australia were booked and I had a job to start! The pressure was on. I was very well supported throughout my PhD by my supervisors Keith Edwards, Gary Barker and Simon Berry and everything went to plan. Jamie and I landed in sunny Adelaide and I spent a busy and wonderful year working at the Australian Centre for Plant Functional Genomics. I was fortunate to have the freedom to carry out my own research and collaborate with many others at the centre. It was a fabulous year full of great memories and a near miss after almost treading on a brown snake (highly venomous) just outside work!

Jamie and I came back to Bristol for our wedding and a post doc examining transcriptomics in wheat (Edwards lab). I had my first child Erin and returned to work following maternity leave. After I had my second child Ben, I decided to take a career break. I had mixed feelings about this but it was the best option for our situation. Having children has been life changing. There are wonderful moments when they first walk, talk, learn to swim or ride their bikes. Then there are the lows points, dealing with tantrums, asthma attacks in the middle of the night and broken bones. Every day is different. Once the children started preschool I kept busy by volunteering at preschool, PTA and even found time to take up some
hobbies. Once they had both started school I decided it was time to return to work. I was so excited when I saw my current job advertised, not only was it working with plant scientists, but it was also part time, which is very practical when you have young children. Jamie is a teacher and during term-time he works long hours, leaving before the kids are up and often arriving back late. This doesn’t fit with school runs or the multitude of after school clubs they attend but on the flip side, he is able to care for the children during school holidays. A year ago my garden was beautiful, pristine. Now my children like to play football and can strike the ball with considerable force, the plants have been bashed from every angle. My next project should be to develop a football resistant fuchsia!!

I was a little apprehensive about returning to work. However, since starting I have been encouraged and very well supported by my line manager Antony Dodd and many others around me. The logistics of the school run and commute are not straight forward and involve more running than I expected! So far, the bus has been late, early, driven straight past me at a bus stop, broken down and crashed!! None of these are conducive with collecting children from school. It can be stressful. As the children grow, becoming more and more independent I envisage increasing my hours on my next position. Whatever that may be...