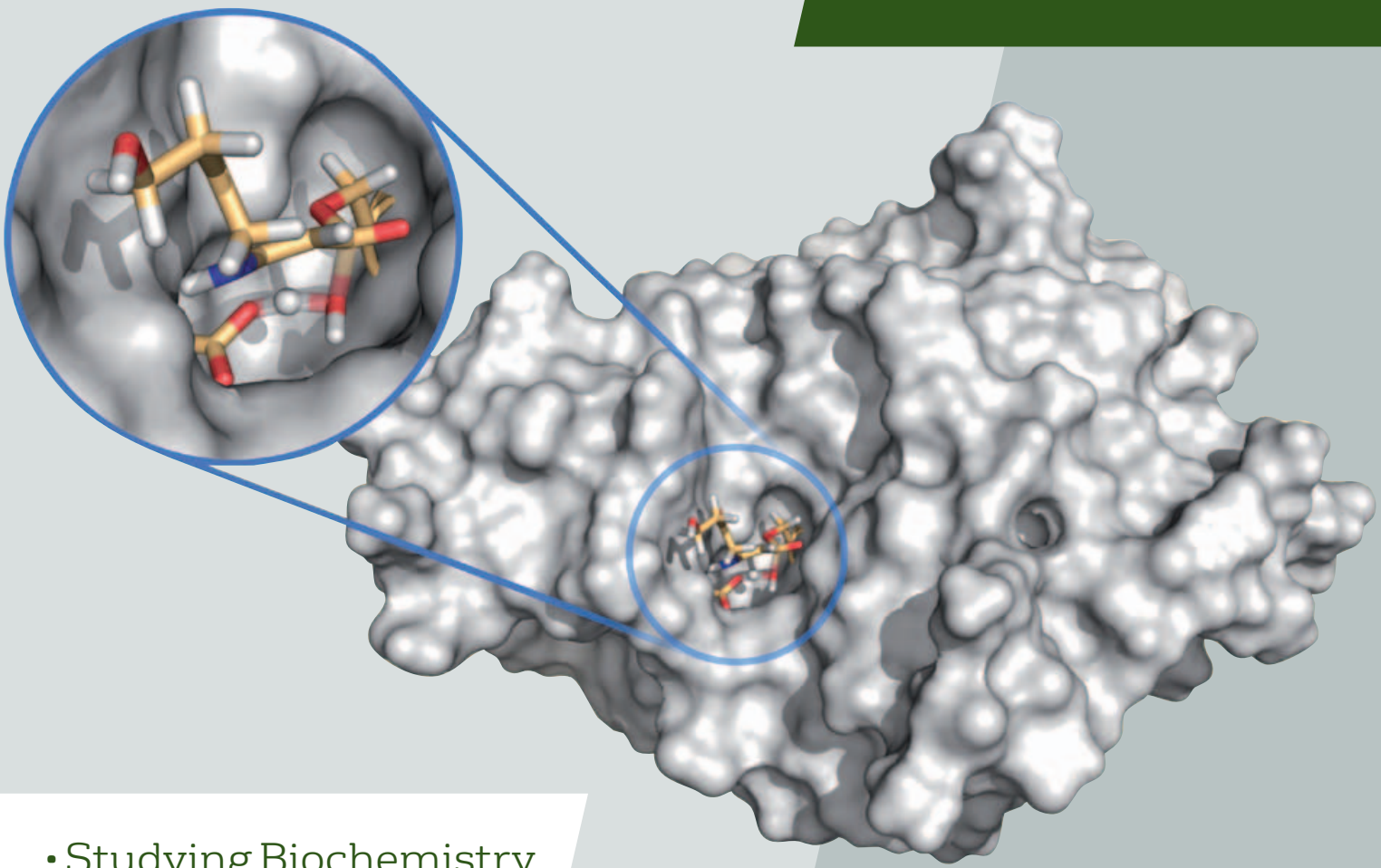
University of BRISTOL

Biochemistry at Bristol

Molecules of life

Biochemistry in action – from molecules to cells



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Welcome

Welcome to the fourth edition of this magazine produced by students and staff at the School of Biochemistry, University of Bristol. Over the following pages, we aim to introduce students in schools to biochemistry as a subject to study at our University. You will also learn about some of the research that our staff and students are doing currently.

Biochemistry explores the molecules of life and how these molecules and the signalling systems they belong to can lead to disease if they are defective or mutated in some way. My own research interests are focused on understanding the molecular mechanisms of how and why cancer cells migrate to spread around the body. To study cancer cell behaviour we use a variety of different types of microscope and one of my favourite pastimes is to watch time-lapse videos of cancer cells confronting non-cancer cells. Hopefully you will get a flavour of some of the research areas we have here at Bristol Biochemistry; amongst other topics this issue includes an interesting piece on how studying the bacteria that live on sponges from the depths of the Atlantic Ocean can help us to produce new and interesting compounds for development as antibiotics.

One of my favourite roles as Head of School is meeting with prospective students at our Open Days and Post Offer Visit days. These discussions are very helpful to me when thinking about what students want in terms of a biochemistry degree. Details of the University of Bristol Open Days are on the back cover – please come and visit us and find out more about Bristol Biochemistry, the degree programmes we offer and tell us what you would like from a biochemistry degree.

Professor Catherine Nobes
Head of School
bioc-hod@bristol.ac.uk

Contents

Acknowledgements:

Lead editor: Dr Nicola Stevenson, Jon Cartwright
Editorial committee: Professor Catherine Nobes, Dr Gus Cameron, Dr Jon Lane, Dr Alejandro Lorente Pons, Alba López Rioja, Joanna Moss, Richard Seager, Inigo Urrutia Irazabal, Jane Fitzwalter, Madeline Mather
With special thanks to: Shannon Clarke, Matthew Odogwu, Izzie Pritchard. Jack Walton, Dr Mark Dodding, Dr Binyam Mogessie, Dr Helen Weavers, Dr Paul Race, Dr Catherine Back, Carl Marsh, Melissa Levy, Johnny Mills, Madison Honey and all our terrific graduating class of 2018
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The possibilities to improve our world by studying the chemistry of life are endless!

Biochemistry in action

Have you ever wondered how messages are passed around the brain? Or how a cell becomes cancerous? Perhaps in an idle moment you have peered down at your hand and pondered how your body knew to give you five fingers. Well the answers to all these questions can be unlocked through the study of biochemistry!

What is biochemistry?
Biochemistry is a branch of science that aims to understand life at the molecular level. By working out how molecules interact in biological systems, biochemists hope to understand how organisms grow, reproduce, adapt and communicate to survive.

What do biochemists do?
Biochemical research is quite diverse; in some cases it may be important to understand how just a few atoms within a protein can affect its function, in others it may involve studying how a whole network of proteins interact. In fact, biological molecules are relevant to whole tissues and organs. They coordinate how we grow, sense, think and feel emotions and when they are dysregulated they cause disease. Understanding these molecules is academically interesting but it is also vital for the development of new life saving drugs and treatments.

The diversity of biochemistry
The study of biochemistry is not limited to animals. Understanding the chemistry of photosynthesis could help us discover ways to increase crop yields. Learning how bacteria protect themselves against chemical intrusion is helping us develop new antibiotics. Mapping the structure of many biological structures is also helping us to build synthetic molecules with both medical and industrial applications.

Studying biochemistry at Bristol

From your first day at the School of Biochemistry at Bristol you'll know this is a special place. Our facilities and staff are world-class and we work hard to make our students feel at home. This year 100% of the first-year students said they were satisfied in our end-of-year survey!

Our programme is designed to give you a solid grounding in the basics before allowing you to specialise in the areas that interest you the most. Importantly, we provide flexible degree pathways to help you to shape your future career plans.

The route through Biochemistry at Bristol

Year 1

In the first year you take two general biochemistry units and two specialised biological chemistry units. You also get to choose two optional units designed to extend your knowledge and build on your personal interests (e.g. cancer biology; infectious diseases; pharmacology; physiology). In this year, you will attend practical classes in biochemistry and related subjects to equip you with the technical and analytical skills needed to flourish as a biochemist. Through our structured tutorial system, you will get to know your personal tutor while gaining important research and presentation skills. You also get the chance to spend time in your tutor's lab, getting to know more about their own exciting research.

Year 2

In the second year world-leading experts will take you through both the theory and practice of DNA manipulation in two specialised units. A unit in cell biology then puts all this into focus, allowing you to understand the intricate molecular mechanisms underpinning cellular function. The fifth unit in the second year is a free choice from a list of relevant subjects (see our website for details of units available). Finally, you'll take a unit that starts to prepare you for a career after university, learning about the wider context of science, how to plan your career and how to be successful in today's fast-moving world.

Year in Industry

After the second year you can choose to take a year working in industry, perhaps in a research lab in a pharmaceutical company, in a biotech start-up, or at a dedicated research institute. Your personal tutor and a dedicated team will give you all the support you need for this decision, but in the end it's up to you!

Year 3

The third year is characterised by smaller classes, increasing specialisation and increased student choice. We are one of the most active and successful groups of research scientists in the UK, and it's this knowledge and passion for our subject that we intend to pass on to you. By this stage you will know what interests you most—be it the molecular, structural or chemical aspects of the course, or the more cellular and biological elements—and you may have some idea about your intended career. Our advanced options course allows you to explore these areas in greater detail. BSc students also have the chance to experience working in an active research lab, carrying out their own six-week research project under the guidance of an expert. MSci students instead take a research training module to prepare them for their fourth and final year.

No matter which route you choose – BSc, Year-in-Industry, or MSci – our students are characterised by a love of science that stays with them for the rest of their lives. The skills we teach equip our graduates with the skills to embark on diverse careers in or outside of the science domain, to adapt to new challenges, and to turn their hands to whatever life throws at them. Being based in one of the best student cities in England is just the icing on the cake!

Where will you go next?

MSci

If you do decide to enrol on our MSci course, you'll find yourself on an award-winning modern route to becoming a research scientist. Much of your time will be spent in one of our research labs, working alongside PhD students and post-doctoral scientists on an exciting project of your own. Our students tell us that it is one of the most enriching parts of their whole time at Bristol.

Year in industry

Bristol Biochemistry offers its undergraduates the opportunity of a placement year at the end of the second year of their degree. Here are a few examples of where our students have spent their year...

Students spend between 10 and 12 months working full-time for companies and research institutes in the UK and world-wide.

Pfizer, Tadworth, Surrey
Matthew Odogwu (EU Regulatory Affairs department)
Jack Waiton (Oncology Marketing)

What have you learned during your placement?
Matthew: It has really helped me develop skills that you do not necessarily pick up during University. The ability to interact and work with a wide range of differing personalities is key. I have also improved my confidence in presenting at meetings to internal colleagues and external stakeholders.

Jack: My role involves working with lots of different people across the business and so my people and communication skills have improved. I've also worked on multiple projects, meaning my time management, organisation and project management skills have improved substantially.

What does a typical day involve?
Matthew: Generally, meetings with various drug development teams within Pfizer, mainly clinical, safety and non-clinical teams as I am working more in the pre-authorisation stages of drug development. As the bridge between Pfizer and the governmental health authorities, interacting with the health authorities forms a large part of my work.

Jack: The variety of the work is one of the reasons the role has been so interesting. I'll have a few teleconferences in the morning, discussing projects with our team internally as well as external creative agencies. I'll then go through the team's project tracker to check where we are with each project and who is responsible for the next step. Typical actions for me include writing a brief to the field force, creating a powerpoint presentation or proof-reading promotional material that's been sent in by an agency. One project involved a leading UK Oncologist coming into the office for a day to film a promotional video. This is a great example of the opportunities these placements can give you, completely different to anything I've done at University.

How do you feel it has helped your future career?
Jack: It has given me an insight into what the pharmaceutical industry is like and has showed me that it's an industry career I would like to pursue. Not only has the placement provided me with skills and knowledge that will help when applying to graduate schemes in the future, it's also given me the opportunity to network and meet people which could prove to be useful later in my career.

Matthew: Yes, working in the pharma industry has made me realise that I want to be closer to the patients. After University I am planning to apply to medicine to become a doctor. The year has helped me realise what I want to do and from that alone it has been helpful.

What have you enjoyed the most about your year in industry?
Matthew: I have realised that I really enjoy early drug development, especially the clinical meetings surrounding early clinical trials and the best strategy to ensure a medicine gets to patients as fast as possible.

Jack: I've enjoyed the fact that I've been able to stay close to the science and biochemistry that I find interesting, while also learning about business. It has been ideal as the projects I'm working on still require an understanding and application of biochemistry, but at the same time I'm learning about the inner workings of a large company.

Glaxo SmithKline at the R&D site, Stevenage
Shannon Clarke (Biopharm Molecular Discovery Antibody Technology Group)

What does a typical day involve?
There is a balance between lab work and desk work, as well as numerous meetings where you hear about other people's work. There are sometimes periods where you are snowed under in the lab, but normally they are followed by plenty of time to write up and reassess the work. All our lab work must be documented immediately, so most days time is spent writing up experiments or analysing data.

How does the work compare to University labs?
In the first couple of months you get a lot of guidance with lab work. But from then on, it's largely independent work. I liked the fact that I could take the work where I wanted it to go and adapt to unexpected circumstances, giving quite a lot of flexibility.

What have you enjoyed the most about your year in industry?
I enjoyed being able to write up my project towards the end of the year, because it seemed like everything I had worked hard on throughout the year had come together, giving an enormous sense of accomplishment, whilst also being able to spend more time looking through the literature and expanding my knowledge. I also really enjoyed getting to know the other placement students, which I think is an advantage of going to a company that takes lots of students and has a well-established placement programme.

Would you recommend this to other students?
I would recommend this placement to anyone that is even slightly interested in lab work. It gives a unique and rare insight into how it works in the 'real world'. On top of this, it's a great working environment where people are friendly and willing to help.

EMBL in Rome in the lab of Cornelius Gross
Izzie Pritchard

How do you feel it has helped your future career?
I think it's been crucial in helping me decide that I want to pursue a career in research after university. This year has taught me a lot about how a real lab works. It has also given me the confidence to share ideas even in a room full of more senior scientists.

Would you recommend this to other students and why?
Absolutely! It's been such an eye-opening year, personally and professionally. It's a great way to experience what a lab is like outside of the university environment, you'll find its very different! Even if you end up deciding research isn't for you it's still a great experience.

What have you enjoyed the most about your year in industry?
I've really enjoyed working in such an intellectually stimulating and creative environment. I've met some amazing people and learned a lot. Living in Italy has also been incredible, spending weekends in Florence and Venice is definitely a bonus!

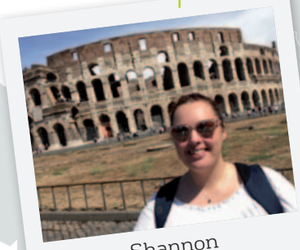
Has it helped you decide your next steps after University?
Yes, it's helped me decide to pursue a career in research. I will probably enrol in a Master's course before finding a PhD position.

Global opportunities
Our students have spent their placement year in various locations around the world

UK: Birmingham; Bristol; Oxford; Manchester.
Europe: Heidelberg; Dresden; Freiberg; Grenoble; Brussels; Copenhagen; Bilbao; Montorotondo.
World: Minnesota, USA; Mae Sot, Thailand; Fukuoka, Japan.

Jack
Surrey, UK

Matthew
Surrey, UK



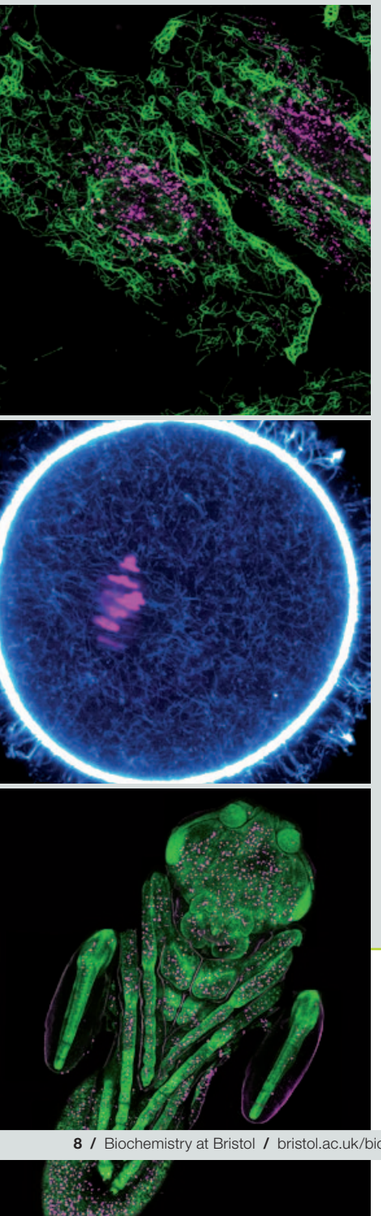
Shannon
Stevenage, UK

Izzie
Rome, Italy

A placement year adds valuable experience to your studies, providing confidence and skills to help shape your future career after University.

Meet the scientists

In the School of Biochemistry at Bristol we have a highly passionate and creative team of researchers dedicated to delivering lecture programmes packed with cutting edge science. Here we hear from three of our newest recruits as they explain their research aims and motivations and why they chose to begin their independent science careers at Bristol. They also discuss the current opportunities for undergraduate project students to contribute to this research.



Top: Immunofluorescence images of cancer cells treated with a newly discovered small molecule – kinesore – that induces remodeling of the cells microtubule transport network (green) and dissociates organelles from the network (magenta). This newly discovered compound targets an enzyme called kinesin-1 to redirect its activity. Current work is focused on understanding whether kinesin-1 has the potential to be a drug target.
By Mark Dodding.

Middle: Chromosomes (labelled in magenta) and the actin cytoskeleton (labelled in blue) inside an unfertilised mouse egg.
By Binyam Mogessie.

Bottom: Imaging wound repair and inflammation (pink cells) live inside the skin of a living fruitfly using a confocal microscope.
By Helen Weavers.

Mark Dodding

Mark was recently appointed Senior Lecturer in Cell Biology in the School of Biochemistry at Bristol, joining us from King's College London where he previously ran a lab in the Randall Division of Cell and Molecular Biophysics.

My research aims to understand how cells are organised in space and time. In particular, my lab focuses on the mechanism and regulation of the key biomolecular machines and multiprotein complexes that control transport within cells. We want to understand how these mechanisms are dysregulated in human disease and also develop chemical approaches to probe and control these machines, and therefore cellular organisation itself.

I began my scientific career as an undergraduate at the University of Edinburgh. This came with an opportunity to spend a year studying abroad at the University of North Carolina at Chapel Hill, NC, USA. During this time, I spent an extended period of time working on the biosynthesis of ethylene. Although not a direction I have pursued since, this gave me my first hands-on experience of discovery science that has continued throughout my career.

I set up my first lab in the Randall Division of Cell and Molecular Biophysics, King's College London. There we made a series of discoveries about how a molecular transport machine called kinesin-1 recognises the many cargoes that it carries and developed new small-molecule tools to target his recognition mechanism. My new lab at Bristol will continue this multidisciplinary work, and I am always keen to hear from students who are interested in working at the interface of cell biology, structural biology and chemistry to tackle questions in cellular organisation. An undergraduate student coming to the lab might use cutting edge cell imaging techniques to discover how organelles move in response to stress, or learn how to develop high-throughout screening assays to find compounds that manipulate this.

I chose to come to Bristol because of the exceptional reputation of the School of Biochemistry and its commitment to multi-disciplinary research. Here I can build collaborations that allow me to explore new ideas that would be impossible elsewhere.

Left to right: Drs Binyam Mogessie, Helen Weavers and Mark Dodding

Binyam Mogessie

All human life starts with the fertilisation of an egg by a sperm. These cells bring together complex genetic information from each parent and from their union arises a unique embryo that will eventually grow into an adult. For this partnership to successfully give rise to a healthy baby, numerous life processes that are invisible to the naked eye need to happen accurately. Unfortunately, these tend to fail very often for reasons we are still trying to understand.

In my laboratory, we use very advanced microscopes to help us look inside mammalian eggs so that we can learn all the secrets behind how these giant cells eventually become a human being. To observe eggs in action, we use fluorescent molecular colours to label their DNA. We also label the tiny molecular machines that carry this DNA and the tracks they follow to move it from one location to another inside these large cells. We combine all of these to shoot spectacular and colourful movies of the life of an egg as it prepares itself to be fertilised by a sperm. We recently discovered that a protein called 'Actin' protects eggs from conditions that cause pregnancy failures and Down's syndrome.

Since joining Bristol Biochemistry in 2018, I am using powerful microscopes and even newer methods of studying proteins inside mammalian eggs. These advanced systems and many other research technologies in Bristol will accelerate discoveries that will help us protect human eggs from mistakes that prevent the birth of healthy babies. Being part of the vibrant School of Biochemistry means I get to work with some of the most talented young minds in the country. In fact, I had an exciting and packed summer with three vacation students studying new functions of Actin inside eggs. One of my students was busy discovering how Actin governs the organisation of the DNA tracks used by those tiny molecular machines I mentioned earlier. The other two students are using those big and powerful microscopes to look even deeper inside eggs and discover the Actin protein in cellular compartments where it has not been seen before. My major career goal is to translate my research discoveries into treatments of human infertility and prevention of embryo deaths. This will ensure that the research we do in the lab today will ultimately have meaningful socio-economic impact that will improve human lives worldwide.

Helen Weavers

Our ability to regenerate, repair or 'heal' ourselves after injury is crucial, as it seals the broken barrier and stops infection. However, unlike superheroes like Deadpool or Spider-Man, us humans (in most cases) can't heal ourselves perfectly – we suffer problems, such as scar tissue, and for many people (including the elderly or diabetics) some wounds never heal.

In my research, I want to understand more about how our wounds heal – what do our individual cells do and which genes are involved - to help find ways we can improve the healing process.
And for this, I use the fruit-fly! This might seem a surprising choice – why use an insect found in fruit bowls at home, to understand how human bodies work? But in fact, the not-so-humble fruit-fly has underpinned ground-breaking biomedical research for over a century and contributed to 5 Nobel Prizes! Fruit-flies and humans share many common organs (including a functional immune system) and 75% of human disease-causing genes. Fruit-flies are also optically translucent at many life-stages, which means we can image these fascinating processes - including the repair of wounds and recruitment of immune cells ('inflammation') - in real-time as they are happening live inside the fly, using fluorescently-tagged proteins to label different cell types. Fruit-flies are also 'genetically tractable' – meaning we can easily manipulate or 'mutate' individual genes to find out the gene's function.

Bristol is an ideal place for beginning my independent research career - it has state-of-the-art imaging equipment and brand-new facilities for breeding the flies! I'm also collaborating with researchers in a different department ('Population Health Science') to use real data from the human genome to help find genes important for wound repair. In fact, for an undergraduate summer project, it would be fun to test some of the human genes that we've found are slightly different in people that have wound-healing problems - mutate these genes in flies and watch live what happens to the healing process. Do the wounds heal more slowly than in normal flies? And if so, why? What cell type is causing the problem? Is there something wrong with the behaviour of the skin cells or the immune cells? We could even 'add' this gene back to specific cell types to see if this rescues the healing problem – just like we hope to do eventually in the clinic.

Self-healing materials and sponges of the deep

Here we explore the research endeavours of Dr Paul Race. A Reader in Biochemistry, Dr Race is at the forefront of cutting-edge research into biotechnology which aims to harness extraordinary biological systems to help solve problems faced in healthcare and technology.

Sponges of the deep
A fascinating facet of Dr Race's research involves studying bacteria which live within deep sea sponges at the bottom of the Atlantic Ocean. His team are culturing and screening the bacteria that live within the sponges for their capacity to produce new and interesting compounds for development as antibiotics.

Historically, biology has saved us all by being the number one source of molecules for antibiotics, for example penicillin. Now, once again we may need to turn to nature to solve the growing global epidemic of anti-bacterial resistance as infectious bacteria are becoming more and more resistant to currently used drugs.

A common problem in antibiotic discovery is that researchers tend to rediscover the same molecules from a certain organism. One way to circumvent that problem is to look for new bacteria in places where no one has looked before, in an environment that is starkly different. By looking in sea sponges 5000m under the Atlantic, Dr Paul Race's team are sampling in an environment that nobody has explored in the history of mankind!

Self-healing materials
Dr Race is also a director and cofounder of the Biomaterials spin out company Zentraxa who have developed a way to make bacteria produce tailorable adhesive polymers or glues.

If you break your arm, your body is incredibly efficient at fixing itself. This is often taken for granted but it is a very sophisticated process! Now, imagine if your technology could fix itself too! Biological healing systems are difficult to replicate using purely synthetic systems alone. The aim of the Race lab is to explore whether combining biological systems and advanced synthetic materials can create self-healing materials to integrate with and enhance technology.

Examples of where self-healing materials are needed are extreme environments. Building self-regenerating, biology-inspired synthetic systems could replace the need for a human worker to fix components inside a nuclear reactor or on undersea cabling, both of which are very expensive and dangerous operations!

New innovative self-healing materials will also be useful closer to home. Humans have moved towards a disposable culture; when a phone breaks people have the tendency to chuck it away and buy a new one. Ultimately this is very wasteful and expensive. A different approach is to make systems which contain self-regenerating technologies. Imagine if your phone screen could heal itself!
It is a very exciting research field and Dr Race's lab are involved, together with 7 other universities, in a huge project funded by a government research council and 13 commercial partners to develop new and innovative self-healing materials for a range of applications.

The 13 industrial partners scale from large multinational companies such as the phone company Siemens, the government's Defence Science and Technology Laboratory and paint coating company AkzoNobel, all the way down to small and medium-sized enterprises.

About Paul

Why did you choose this field?
"I did my first degree in Microbiology as I have always been interested in microbiological life. After finishing my first degree, I wanted to do something a little more biochemically focused and went on to do a Biochemistry PhD. The project, part funded by an industrial partner, meant I spent 6 months working with a company, taking my research and applying it in a commercial setting. Working in both academia and industry has been very influential on my work to date."

The School of Biochemistry has strong links with Scientific industry and offers a range of courses which have lab projects working with world leading biotechnology researchers. The University of Bristol also runs a Bristol Futures Initiative to provide students with training in innovation and enterprise, citizenship and sustainability alongside their degree (bristol.ac.uk/bristol-futures).

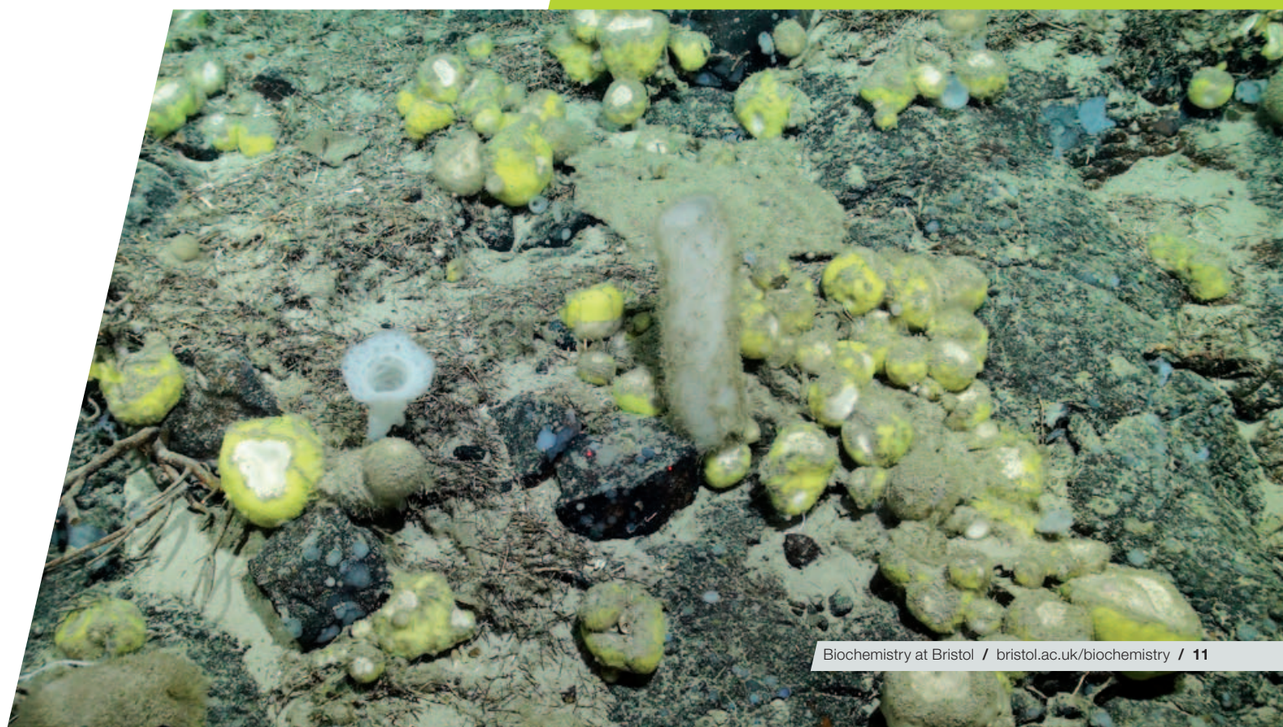
What is the best thing about your job?
"Every day is quite different, with different challenges and thought processes. This presents its own hurdles, but it is quite refreshing to have that flexibility. I think such diversity is rare to find in other professions.

There are also plenty of opportunities to travel to conferences and with my work I like to engage with and give talks to companies. Meeting with the commercial sector is not something all academics necessarily do but I really enjoy it."

Words of encouragement to prospective students:

"When you think about people who pursue a career in academia you often think about the most intellectually gifted individuals. But this is absolutely not the case. What you find is the people who succeed are the ones who hang in there.

Academia as a profession is built on a lot of rejections, not every grant you write will be funded and not every paper you submit will be accepted by a journal. The people that make it are the ones who can take it on the chin and move forward."



Future careers – Case studies

Melissa Levy

Melissa graduated in Biochemistry from the University of Bristol in 2016. During her bachelors she was President of Helix, the University of Bristol's Biochemistry Society, and Managing Editor of the University of Bristol's Science Magazine, Synapse.

Melissa is currently Senior Research Executive at Ipsos MORI in London.

Why did you choose to work at Ipsos MORI?
I've always been interested in science and particularly healthcare and disease, but I knew that working in a lab didn't suit me. So, I spent a lot of my final year at Bristol looking for somewhere where I could use my passion for science in a different way, and that's how I found the grad-scheme at Ipsos.

How does having studied biochemistry help you with your current job?
Studying biochemistry has helped me to understand how the products or diseases that we're discussing actually work. Despite the fact that I wasn't ever going to become a top lab-based scientist, I really enjoyed research! I like having a question that needs answering and doing some sort of methodical analysis to find the answer, and this is literally what I now do (just in a slightly different way)! I regularly find myself looking up the anatomy of a heart, a rare disease, or a specific inflammatory pathway! Not everyone I work with comes from a science background, so I also find myself teaching my colleagues as well – using skills I learnt during my final year project where I worked at a sixth form as part of the Wellcome Trust Authentic Biology Program.

How is biochemistry a part of your job?
I work in the healthcare team. We are hired to run research projects speaking to both patients and physicians about new developments in the medical industry at all stages of development. I need to understand how each of the drugs and diseases work to know what to ask and how to analyse the responses from the patients and physicians.

What do you enjoy about your job with Ipsos MORI and why?
I love learning about new developments in medicine and research, it's really exciting to hear about and be part of. I also like the fact that our projects are only a few months long each, so what I'm working on changes all the time which allows me to focus on different disease areas and products, whilst working with different people.

What are some of your favourite memories from your time with Bristol Biochemistry?
I loved my time at Bristol, I'll always look back with such fond memories! Socials run by Helix were also definitely a highlight, as well as the medical sciences ball, and playing netball for the Helix netball team (although we weren't very good…). It was a very challenging 3 years, but I loved all of it!

Jonny Mills

Jonny graduated in biochemistry at the University of Bristol in 2010 and after a year working behind the bar at a pub in Oxford, continued his studies at Heriot Watt University with a Masters Degree in Brewing and Distilling. Once he had finished his degree, he worked at the Bristol Beer Factory for five years, becoming head of brewing after two years at the company.

Jonny then went on to co-found Mills Brewing, the only brewery in the UK producing solely wild fermented beers. He also teaches brewing at the Bristol Brewery School and brews part time at Tiley's Ales.

How do you think studying biochemistry has contributed to the creation of your own business?
It has been instrumental in my understanding of how yeast and bacteria behave in our mixed culture fermentations. I certainly would not have felt comfortable controlling this type of fermentation without some of the underpinning knowledge of metabolism, cell structures and replication. What I have learned since is how this all links into flavour.

Why did you choose to create your own company?
I had no intention of starting my own company throughout my time at university. The idea evolved as I started to gain an interest in the production of wild fermented beers and wanted a platform to be able to produce them without the compromise that can often come in other breweries.

What does a typical day involve?
It varies depending on the task at hand. A brew day is a more physical day where I am in my wellington boots processing the ingredients to produce wort (malt/hop extract). Other days involve bottling the finished beer, which we do painstakingly by hand. Lots of time is also taken up with the admin that comes with running any business.

Where do you see yourself in 5 to 10 years?
Right here, running our brewery.

What are some of your favourite memories from studying at Bristol?
The people, both course mates and staff. The concentration of interesting, interested people really inspires. The city too. I'm proud of just completing the degree, it is certainly one of my biggest achievements.

Celebrating our students

Every year we celebrate our graduating students with a graduation party. Also at this party, the Biochemistry Good Citizen Award is awarded to a student in the final year of their Biochemistry BSc or MSci programme.

Another year has passed for our Biochemistry students. Many have graduated after their final year and will go on pursuing their career as biochemists, but not without leaving behind a positive mark on the community. At the School of Biochemistry, we take pride in presenting an award to our graduating student who has best demonstrated that studying and getting excellent grades are compatible with volunteering and helping others in the community.

This year, the awarded student was Madison Honey.

Whilst managing to attain a 1st throughout the three years of her Biochemistry degree, Madison also upheld a position as the course rep, communicating ideas from the students to our teaching staff, which was useful for both us and her classmates.

In addition to that, Madison spent much of her free time participating in volunteering activities. Throughout her first and second year, she volunteered monthly with Pitstop, a charity that takes children with learning difficulties out on day trips. She was also involved with Barrow, a charity that takes students to a psychiatric hospital where they socialise and play games with the patients. She also took part in charity events for Marie Curie, which offers support and care to people with terminal illnesses and volunteered on the Bristol Elm Tree Farm with the Brandon Trust, where she provided support and training to adults with learning disabilities and autism. Now, Madison is the project coordinator for Jolidays, where she recently organised an adventure trip for young carers aged 8-12.

All of these projects and many more are accessible through the Skills & Volunteering office at the University of Bristol Students Union. In 2016, Bristol SU Volunteering was awarded the Queens Award for Voluntary Service, which is the highest award given to local volunteer groups across the UK in recognition of outstanding work in their communities. This was possible thanks to the thousands of university students who volunteer every year in Bristol.

Additionally, the University offers the PLUS award programme to grant recognition for volunteering and skill-building, and the Outstanding Award for students who achieved something substantial and significant outside of their studies. These awards are supported by employers as they demonstrate valuable extra-curricular skills. As an example, Sonam Gurung, a current PhD student in Dynamic Cell Biology at the School of Biochemistry, was awarded the Outstanding Award in 2016 for developing the ‘Careers Beyond Biomedical Research’ seminar series to allow researchers in this field to explore potential career options outside of academia.

Obtention of the PLUS and Outstanding awards require attending some courses from the Bristol Futures programme. Bristol Futures allows students to build up their skills by engaging with a range of activities to investigate some of the major opportunities and challenges facing society today, supporting their studies and personal development.

All in all, we are very proud of Madison and Sonam at the School of Biochemistry. They totally deserved the recognition given by the Good Citizen and Outstanding awards, and we hope that next year there will also be many students who do their bit to the community while becoming great biochemists.

2019 Open Days

Friday 14 June
Saturday 15 June
Saturday 7 September

92 per cent of students studying Biochemistry at the University of Bristol reported overall satisfaction with the course

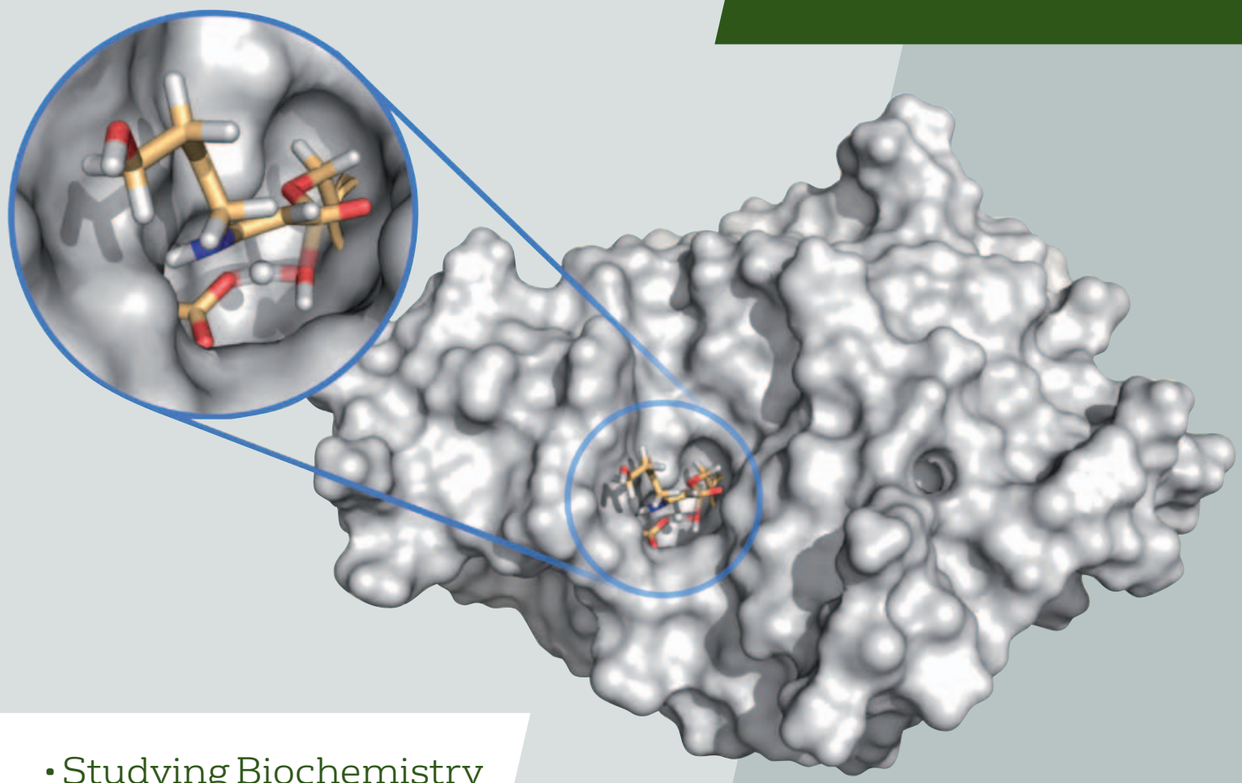
(results of 2017-18 National Student Survey)

University of BRISTOL

Biochemistry at Bristol

Molecules of life

Biochemistry in action – from molecules to cells



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Get in touch

@BristolBiochem
bioc-exec@bristol.ac.uk

School of Biochemistry
University of Bristol
Biomedical Sciences Building
University Walk
Bristol BS8 1TD
Tel: +44 (0)117 331 2167

bristol.ac.uk/biochemistry

Athena SWAN Silver Award
ECU GENDER CHARTER