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ABE UK News

ABE UK

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Back to school and back to biotech

Dr Eddie Orija, site director, ABE UK

Welcome to our autumn 2026 newsletter. We are delighted to announce the successful completion of the Amgen Biotech Experience (ABE) UK site move. Operations have officially transitioned from the Centre for STEM Education at the University of Hertfordshire to the Teacher Scientist Network (TSN), which is based at our Norwich hub – those of you who have visited the John Innes Centre will recognise the above photo of our new home. Please be assured that despite this relocation, the delivery of the ABE UK programme, including all associated activities, will continue exactly as usual across our five hubs without any interruption.

To support this transition, we have updated our digital presence and contact details. We warmly invite you to find out more about TSN by visiting <https://tsn.org.uk> and about ABE UK by visiting <https://amgenbiotechexperience.net/uk/>. Additionally, for any future correspondence or enquiries, please ensure that you direct your messages to our new main email address at ABEUK@nbi.ac.uk (which replaces the now defunct STEM@herts.ac.uk).

This newsletter is packed with fantastic updates and materials to support your work. Amongst other things, you will find fascinating insights from ABE Master Teacher Fellow Alison Ackroyd, details of how you could win a set of fixed-volume micropipettes for your school, a Health & Safety update, and of course some valuable input from Phil. But first, read on for details of how to book your place at the next network meeting.



Network meeting

This term's network meeting will introduce you to our new ABE UK website and help you to access our resources - we don't want you to be confused as to where to find any of our great resources for delivering the labs!

The network meeting will run via Teams from 4pm to 5pm on Thursday 8th October – sign up here: [Network meeting registration Date: Thursday 8th October 2026 Time: 4pm to 5pm via Teams – Fill in form](#)

We look forward to seeing you.

Carrots 🥕 and sticks 🐾

You might be thinking, here we go again, more talk about the importance of feedback data, but with the level of feedback recently having dropped rather alarmingly and with ABE UK programme under new management, this data is more important than ever before.

We rely on feedback from kit loans, CPD and students as part of our quality assurance, but also to satisfy the programme funders – it's the evidence both sides need that the programme is working and worthwhile in the UK.

This summer, we were proud to deliver ABE CPD to 117 teachers and technicians from across the UK - thank you if you were one of the 41 people who took the time to complete your feedback form, and hats off to Cambridge Regional College and its participating teachers and technicians for having the highest response rate across our hubs.

So, what can ABE UK do to increase the response rate, I hear you ask? Have a carrot, they're good for you . . .



Any completed evaluation forms for kit loans will go forward to a hub-specific draw for a set of fixed- volume micropipettes, allowing you to perform micropipetting activities in your own school as often as you like.

Whilst we're sure no one will encounter the stick, not participating in feedback might put your school or college at risk of not having access to your beloved kit loan the following year.



Finding Signals in Complex Data: Reflections on the Master Teacher Fellowship

Dr Alison Ackroyd

Lecturer in T Level Science and ABE Hub Lead

MidKent College

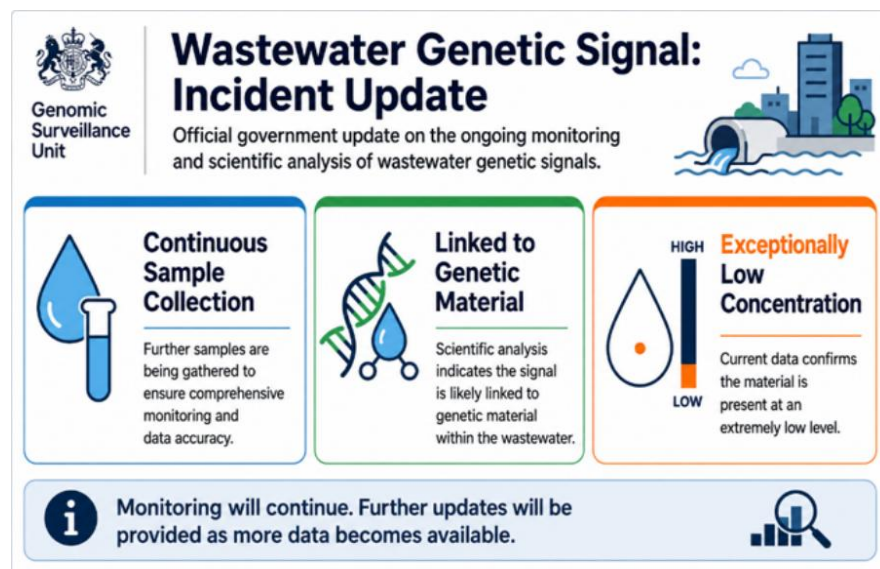


Scientific evidence does not always provide a neat answer. A result may be significant, inconclusive or simply the starting point for further investigation. Helping students understand how scientists make decisions in these situations became the central idea behind my Master Teacher Fellowship project.

Finding Signals in Complex Data: A Scientific Investigation into Wastewater Genomic Surveillance is a four-lesson investigation for students aged 16–18. I wanted to create something that built on the practical biotechnology at the heart of ABE, while helping students see where techniques such as PCR and gel electrophoresis fit within a much wider scientific story.

Students take on the role of a Genomic Surveillance Unit after an unusual biological signal is identified through routine wastewater monitoring. They begin with several sources of information, including surveillance data, community observations and a local news report. Their first task is to identify patterns, separate observation from assumption and decide whether the evidence is strong enough to justify further investigation.

As the investigation develops, students explore environmental DNA and the challenge of finding a very small amount of target DNA within a complex wastewater sample. They consider how PCR can amplify the target sequence before interpreting simulated PCR and gel electrophoresis results. Positive and negative controls, possible contamination and limitations in the evidence all influence how confident they can be in their findings.



The investigation concludes with students working from different professional perspectives to prepare a briefing for a simulated Public Health Advisory Board. They must agree on a recommendation, support it with evidence and explain clearly what is known, what remains uncertain and what they believe should happen next. This has become one of my favourite parts of the project. In the classroom, scientific investigations can sometimes appear to move smoothly from a question to a definite conclusion.

In reality, scientists often work with incomplete or conflicting evidence. They may need to repeat an analysis, collect more data or make a careful recommendation while being honest about what is still unknown.

I think this is particularly valuable for post-16 learners. Alongside developing their scientific knowledge and practical skills, they need opportunities to interpret information, question its reliability, listen to different viewpoints and communicate their decisions. Wastewater surveillance brings all these elements together while making connections between molecular biology, public health, environmental science and data analysis.

It also opens up conversations about the many people involved in modern science. Students can explore careers in laboratory science, epidemiology, bioinformatics, environmental health and scientific communication. They can see how people with different areas of expertise contribute to a shared investigation.

It was important to me that the resource could be used in a range of teaching settings. The investigation can be completed using simulated evidence, allowing students to develop their scientific reasoning where time or access to specialist equipment is limited. This is not intended to replace practical biotechnology. Where facilities are available, the lessons can lead into or extend practical PCR and gel electrophoresis work, connecting directly with the ABE laboratory experience.

One of the real pleasures of the Master Teacher Fellowship has been the opportunity to discuss my ideas with an international group of educators. Hearing about their students, curricula and experiences of teaching biotechnology has made me think much more carefully about adaptability. Although our settings may be very different, there has been a strong sense of shared purpose and a genuine willingness to support one another.

The completed project brings together teacher guidance, a student investigation journal and all the evidence resources needed to deliver the scenario. I hope it will be useful both to experienced ABE teachers and to colleagues who are just beginning to introduce biotechnology into their curriculum.

The Fellowship has reminded me how powerful practical biotechnology can be when it is connected to a purposeful investigation. Students still need to understand how techniques are carried out, but they also need to see why they matter, how trustworthy the evidence is and how that evidence can be used to make responsible decisions.

I feel very fortunate to have had the time and encouragement to develop this project. I am enormously grateful to the ABE Program Office, the ABE UK team, my fellow Master Teacher Fellows and everyone who has shared ideas, asked questions or offered support along the way. The experience has given me far more than a completed classroom resource: it has connected me with a warm and inspiring international community of biotechnology educators.

For ABE Master Teacher Fellowship info, visit: <https://www.amgenbiotechexperience.com/abe-master-teacher-fellowship>

To see short presentations by UK MTFs Alison Ackroyd, Sam Ward and Patricia Hess on their ABE Master Teacher Fellowship projects and experiences, visit: <https://www.youtube.com/@amgenbiotechexperience844>



Smile for the camera!

We're delighted to share that you will soon have the facility to upload photos from your kit loan experience. This facility will allow us to easier troubleshoot any issues you may have had and to share in your successes. We look forward to sharing more detail on how you can engage with this aspect of the ABE UK programme soon.

Hull spotlight

Quick shout out to Kelvin Hall School and Read School – we're so glad you shared your feedback, and well done to our lovely team at our hub in the University of Hull

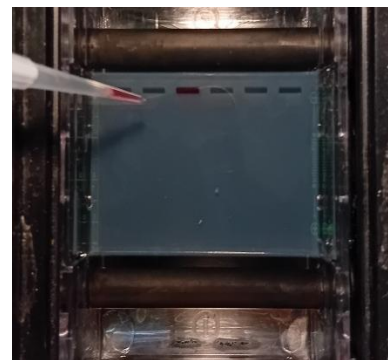
"This is an excellent course in biotechnology/genetic engineering for KS4 and KS5 educators, and all free of charge including loan of equipment and materials for your students to use themselves in your own school or college!"

"I love this course. We have introduced it to school at a variety of levels for the past two years and it's always a great hit."



Health & Safety

For those of you using the MiniOne units (MO), please take note. One of the key safety features about MO, is the removal of a u/v hazard. However, to excite the Gel Green MO uses Blue Light which in itself is not hazard-free. Until now we have encouraged you to load gels using the "half-intensity" blue light, but it is best practice to load without the blue light. The wells are still very visible and a light above when loading makes it even easier. In addition, do remember the blue light should be OFF while gels are running, so as not to quench the signal from the Gel Green bound to any DNA sample. In essence, keep the use of Blue Light to a minimum.



'And finally' from Phil

Welcome back everyone! You would not believe the massive 'behind the scenes' effort required to move ABE UK to TSN ownership, but that is behind us now and has gone smoothly thanks to a tremendous team effort. For those unaware, TSN is the education charity that I have run since 2004. It's over 30 years old and has always responded to teacher need and feedback. With our home on the Norwich Research Park, we are well placed to share real-world examples of contemporary biotech to help you keep your lessons cutting-edge as well 😊.

I am delighted that Eddie and Philippa have moved too, meaning a familiar team will continue to support this wonderful programme. In theory, you won't see anything different aside from some logos and email addresses, but to ensure YOUR ongoing involvement is as smooth as possible I would urge you to join us at our next Network meeting so we can guide you through the pages of our new ABE UK website, which puts at your fingertips our PowerPoint slides, digital guides, Health & Safety guidance, flowcharts and enrichment resources. Throughout the summer training we weren't able to say for sure how these items could be accessed and where our regular forms would be located, so I am sure this will be 30 minutes of your precious time well spent (details above)

During the summer CPD, several people asked about whether we would be bringing back the Cheek Cell practical, a PCR-based practical working with students' own DNA samples. A new version of this lab links closely to the Exploring Precision Medicine (EPM) unit recently developed for the programme and the subject of our Network Meeting in December 2025. If you want to know more about EPM, catch-up with our [PowerPoint presentation](#) for that Network meeting in which I summarise the 7 units. We will investigate adding this to our practical portfolio later in the year and making the lab available next summer - Watch this space!

There are lots of instructions for student's students to read in the ABE manuals and tables, and on top of this, students need to remember when to change their tip to avoid contamination this summer we heard this simple instruction shared by one of our teachers "**New Line, New Tip**" - now you know, TRY IT. If you have your own little gem that you want to share, do drop us a line.