Under the Microscope

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Guest editor: Lara , age 13

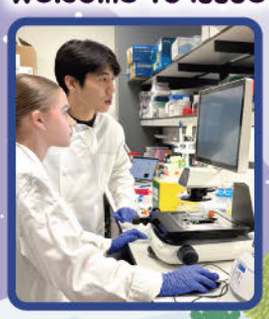
Paediatric Gastroenterology Research Team newsletter

Addenbrooke's Hospital, Cambridge University Hospitals NHS Trust

Issue 12 - November 2025

HELLO!

Welcome to issue 12 of our newsletter!



Thank you to lovely Lara, our guest editior for this issue. Let us know if you'd like to be guest editior for a future issue!

We enjoyed having Lucy visit the lab in the summer. She had a busy afternoon of activities, including interviewing Woojin and carrying out her own science (with the help of the team of course!). Find out more about what Lucy got up to on pages 4 and 5. If you would like to do this too, let us know!

Our team has been representing our work abroad! Matt has presented at a paediatric IBD meeting in Italy, while Jen and Seb attended the United European Gastroenterology (UEG) meeting in Berlin.

Back at home, our investigators meeting at Madingley Hall brought together researchers and collaborators for an interesting day of discussion and planning.

And of course we like to have some fun too, we enjoyed a lively session at Clip n Climb! Can you spot Matt?

Research nurse Claire visited York in the summer and explored the amazing Viking exhibition. One of the most surprising things was this - a human coprolite (a fossilised poo!). It was discovered during excavations and has helped scientists learn all about what people who lived hundreds of years ago ate.

Young Sparks!

Have you heard of the 'Stroop Effect'?

It's when your brain gets tricked because the colour of a word and the word itself don't match, like when the word 'red' is written in blue ink!

Can you say the colour of each word out loud, but not read the word itself - it's trickier than you think! How many did you get right?

orange green purple pink black
brown yellow white red

Terrible dad joke...(by Lara's dad, Anthony!

Patient: "Doctor please help me, I'm having trouble hearing anything."

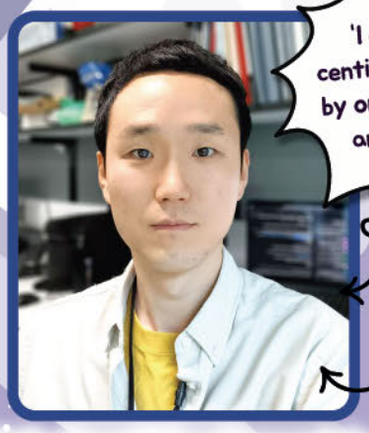
Doctor: "OK, what are the symptoms?"

Patient: "Well, they're yellow,... Marge has blue hair, Homer is the dad, and then there is Bart, Maggie, and Lisa."

Meet our team...

Scan here to see all our newsletters!

JAESUB



'I absolutely hate centipedes! I was bitten by one when I was little and I still have the scar!'

'When I was 7 years old I climbed a mountain that was over 1000 metres high all by myself!'

'I used to be a guitarist in a band and performed on stage about 4 times!'

Hi, I'm Jaesub! I'm a Research Associate, but you can call me a 'data detective'. I work with an amazing team of scientists trying to solve the mystery of inflammatory bowel disease. While my scientist friends work in the lab, my main tool is my computer! They give me mountains of clues (we call it 'data') from their experiments, and I spend my day searching for secret patterns hidden inside all those numbers. It's like looking for a secret code that will tell us why IBD happens and how we can find new ways to help people feel better. The scariest part of my job? When my computer freezes just as I'm about to discover something important!

When I'm not hunting for data clues, I love to go fishing. I especially like lure fishing, which is basically a fun game of trying to trick the fish! I use colourful fake bait that looks like little fish, frogs, or wiggly bugs, and I make them swim in the water. If I do it just right, a fish thinks it's real food and CHOMP! It's always exciting to see what I can catch.

BÁLINT

'When I was a teenager I attended showdance classes and also competed once. With my partner we finished 2nd (out of 3 pairs)!'

'I love to cook and at home. I have a beautiful kitchen!

Hi, my name is Bálint. I'm a resident paediatrician, meaning I'm training to be a doctor who looks after children. I am also a clinical researcher and my focus is paediatric IBD. I work in Budapest, the capital city of Hungary and as part of my research we are recruiting Hungarian children with IBD, asking them to donate biopsies for research, just like you. We freeze those biopsies in a special liquid and store them in very cold freezers (-80°C) for a while. Eventually we ship the biopsies frozen to the research team at Addenbrooke's who process them in a similar way as they do your biopsies.

In my free time I like to travel and take pictures with my Fujifilm camera. Recently, I also have a travel buddy, who comes everywhere with me, and also has a travel blog on Instagram. His name is Harapós Henrik (pronounce: harapoesh. His name means 'Henrik who bites (big)' in Hungarian), he is a very cool, funny companion and we often take pictures together while we travel - as you can see!

'I can eat almost anything (I even ate crickets and larvae in Thailand) but I just cannot tolerate turnip cabbage and sorrel...!!'

Our research...

(...and interesting research other teams are doing!)

NIHR | BioResource

This is Professor Holm Uhlig. He's a Paediatric Gastroentereologist at Oxford Children's Hospital. He's also the Lead Researcher for the PIBD BioResource, and here he tells us what it's all about!

The PIBD BioResource:
Helping Scientists Understand IBD!

We always talk about how doctors and scientists are trying to find new ways to help people with Inflammatory Bowel Disease. That's exactly what the Paediatric Inflammatory Bowel Disease BioResource is all about!

The study brings together children and young people with IBD from hospitals across the UK. Everyone who takes part is helping researchers learn more about what causes IBD, why it affects people differently, and how treatments can be made better in the future.

IBD

So far, over 700 young people have joined, which is amazing!

If you want to take part you give a small sample (like a bit of blood or saliva) and some information about your health. These samples and details are safely stored and used by scientists to look for patterns in genes, immune systems, and other clues that could explain why IBD happens.

The goal is to find better ways to treat IBD, spot it earlier, and maybe even prevent it altogether one day. Each sample is like a tiny puzzle piece that helps build the bigger picture of how IBD works.

The PIBD BioResource also helps scientists try out new technologies, like genome analysis (where scientists look at DNA) and artificial intelligence analysis to find patterns that humans might miss. This could speed up discoveries and help doctors make smarter choices about care in the future.

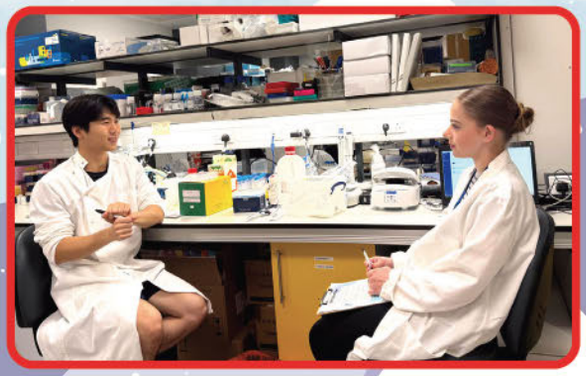
By taking part, you are making a difference, not just for yourself, but for others with IBD now and in the future. If you are interested you can ask your research nurse for some more details:

(You can watch a short video all about the PIBD bioresource by scanning this QR code):

claire.glemas@nhs.net

Lucy's lab trip!

Budding scientist Lucy came to visit us in the lab - she interviewed Woojin and did an amazing experiment!



Hi, my name is Lucy and I am 12 years old. I was diagnosed with IBDU in May 2024. It took me a while to accept my illness but when I finally did, I decided to go to the IBD family day at Addenbrooke's. I had lots of fun there and I was lucky enough to get invited to the labs at the hospital. When I went to the labs this summer, I interviewed Woojin (a PHD student at Addenbrooke's). I asked him lots of questions and he gave a great answer to all of them!! These are some of the questions that I asked him:

Q- Why did you decide to do your PHD?
A- Woojin told me that he really liked the mystery of diseases and that you don't always know why or how they are caused.

Q- What's the most exciting thing you have discovered during your research?
A- He said that 'sometimes the most boring things can be the most exciting. Cells for example, you know that they're there but when you watch them physically move around underneath the microscope during certain tests and experiments it is really cool.'

Q- How do you do your experiments?
A- 'Planning' he said. 'You need to do a lot of planning so that you can organise yourself because if you've not got everything planned then you have just wasted your time!'

Q- What's a normal day like for you as a PHD student?
A- 'It depends what year you are in' he told me. His first year routine consisted of him waking up, going to the labs, doing his work and then relaxing with his friends, but in his final year his routine was to work until 5/6pm then go to the leisure centre.

Q- Have you ever had any experiments that didn't work? What did you do then?
A- 'Yes, probably about 70% of experiments fail. If every experiment worked well then we would have answers and medications for every illness and disease. When it doesn't work, you have to be resilient and see what went wrong and try something new. There isn't much point in repeating the exact same thing because if it's failed before it's probably just going to fail again.'

Q- How does your research help young people with IBD?
A- Woojin told me that the aim of their research is to find treatments individual to each patient with IBD instead of having a few different treatments for every person with IBD.

Q- What's the coolest science fact that you have learnt while doing your PhD?
A- 'The coolest science fact that I've learned is that you can use ethanol as an antedote for methanol poisoning (the ethanol would kill the chemicals from he methanol).'

Q- If I want to become a scientist one day, what should I start doing now?
A- 'It's really good to have curiosity and to ask questions about things and to understand them rather than just try to memorise everything and not know what it means.'

Q- If you had to do another job what would it be?
A- 'If I had to do another job then I would be an athlete because I really enjoyed sports when I was younger.'

I just wanted to say thank you to everyone that organised my lab visit. I had an amazing time and everyone was so kind.

Immunostaining stromal cells with F-actin and DAPI (in green and blue respectively) to visualise the shape and structure of the cells grown in a flask, then imaging and taking pictures on a fluorescence microscope at different magnifications.

(let's explain what all this means....)

Activity: Looking at Stromal Cells Under a Fluorescence Microscope

Before we started, we made sure to explain all the important lab rules, like wearing lab coats, not touching anything without permission, and always being careful around equipment and chemicals. Safety always comes first in the lab!

We did a science experiment to look at special cells called stromal cells, these are like the support team for other cells in the body.

1. To see the important parts inside the cells, we used special glowing dyes (like colourful highlighters for cells!).

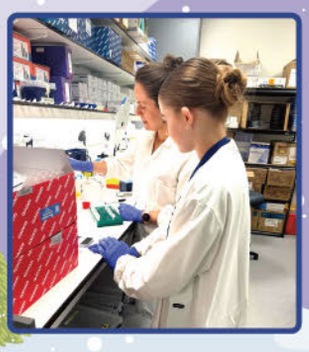
2. Before the dyes could get inside, we had to use a really strong detergent to gently break open the cell walls a little bit. This doesn't destroy the cells, it just opens them up so the dyes can sneak in and stick to the right parts.

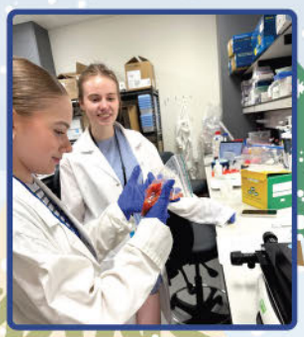
3. We used a green dye (called F-actin stain) to show the shape and structure inside the cell, kind of like the skeleton that helps it stay in shape.

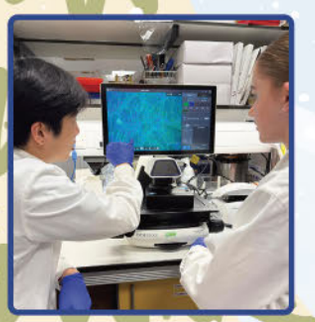
4. We used a blue dye (called DAPI) to highlight the nucleus, that's the control centre or 'brain' of the cell.

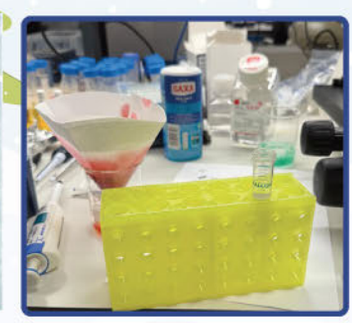
5. Next, we used a fluorescence microscope, which is a special microscope that uses light to make the dyes glow. We zoomed in and out at different levels, just like using a camera, and took pictures to study how the cells look and how they're built.

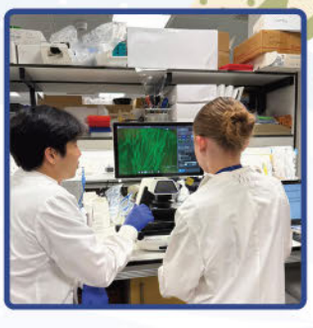
Here are some pictures of what we did!











ANSWERS:
1 : SNOWMAN
2 : FROSTBITE
3 : EVER GREEN
4 : MISTLE TOE
5 : SLEIGH BELLS
6 : SNOW FLAKE
7 : HOT CHOCOLATE
8 : REINDEER

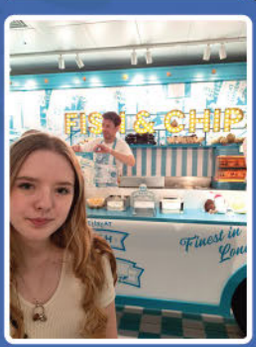
Over to you...

A space to share your news, talents and things to celebrate!

'Hi, I am Isla, and I am 10 years old. Throughout September my Daddy and I have completed the Crohn's and Colitis 60 Mile Challenge. My Daddy ran the 60 miles, and I cycled (63.2 miles to be exact!).
In June 2025, I was diagnosed with Crohn's disease. I knew a little bit about IBD as my Daddy has UC. I felt scared and anxious going through all the tests, procedures and clinic appointments. I had lots of help not only from my Mummy and Daddy, but also from Anna, Chelsea, Iona, Leona and Amy.

My Daddy has run 2 marathons for Crohn's & Colitis UK, so it was extra special to do this challenge with him. I wanted to do something positive to help raise money for important research, and to show everyone that I am still ME. We have raised £200 for Crohn's & Colitis UK.'

Hi, its Phoebe x
I had a very busy July which ended with my theatre schools big show at the Royal and Derngate in Northampton where I got to be Lola from Copacbana which was awesome. I had crazy Summer saw 3 theatre shows and celebrated my 14th Birthday in London watching the amazing Oliver in the west end. Also got to go to Jellycats Fish & Chips experience if you haven't been definitely worth a trip guys. X



George is 3 and he's been getting up to lots of autumnal actitives and crafting It was his first time trick or treating this year and he went as a skeleton!

Emily and her sisters Isabelle and Lydia had a wonderful holdiay - they spent a long time perfecting dance moves and jumps in front of the iconic Eiffel Tower!

Edward and Arthur (aged 3) absolutely loved pumpkin picking, chasing the ghosts and driving tractors in October!

Gaby is very excited to be making her debut in a local amateur dramatic group The Masque Players Kesgrave. She has two roles in 'A Christmas Carol' - Belle, who is Scrooge's first love and Alice who is married to Fred, Scrooge's nephew. There are four shows starting in mid November and Gaby has worked hard learning her lines and all the songs. Lots of her friends and family are going to see the show and support her!

lara's story

Our guest editior shares her IBD story

My name is Lara Kalli, I am 13 years old, and I was diagnosed with ulcerative colitis when I was 9 years old. I first saw symptoms when I was 8 years old.

I've been to three hospitals and I have tried many different medications which have worked for periods of time, but never lasted. In 2022 I was on a very high dose of steroids, but it was doing nothing. None of the medictions were working and I had run out of options, so I was rushed into surgery to get a stoma bag. My surgery was around 6 hours long.

I got out of hospital after my surgery on Christmas Eve, just in time to come home for Christmas, which was a present in itself, to spend it at home with my family. After surgery, it was very rough recovering, I had no energy, I could hardly move, or go throughout a day without taking a nap.

Because of the steroids, my adrenal glands weren't working enough to give me the energy I needed, so I had to see someone to help them work again - it thankfully only took a few months.

After that I slowly recovered and regained my energy and muscle and I was back to learning and school. I even took up new sports and hobbies, skiing, and Sea Scouts.

After my recovery I was given the opportunity to make a wish with the Make a Wish charity, I was so lucky to have a trip to Disney Land, Florida, and I made lifelong memories and got to meet Mickey Mouse and Minnie Mouse!!

Recently, I've been on a Scouts trip to the international scouts centre in Switzerland doing life changing activities, and I continue to ski - I have a ski trip with my school and friends coming up next year. I love to take up these opportunities and do whatever I can to make the most of life, because I remember what it was like for 10 year old me to sit in that hospital bed looking at people my age going out and having fun whilst I had an IV drip in my arm. Life does get better though, and I know my younger self sitting in the hospital would be proud of me now.

I could not have done it without the support of the IBD team at Addenbrooke's hospital, Dr Rob, and Nurse Mary. And I live my life to the full now with a stoma bag and I am so grateful I am no longer suffering.

Lara x

A little bit of exciting news...

A new IBD nurse is joining the team in mid-Novemember - she'll introduce herself properly in the next issue. We can't wait to meet her!

Time to play!

calling all young journalists!

Would you like to write, or draw, or share something for our newsletter? Or tell us what you'd like to see in the newsletter! We'd love to hear from you.

We'd also love to know what you enjoy about our newsletter, and what could be better (You can ask us to stop sending you our newsletters here too). Your feedback is super important to us.

To get in touch, scan this QR code or email:
claire.glemas@nhs.net

GUESS THE PICTOGRAM

1. _____ _____

2. _____ _____

3. _____ _____

4. _____ _____

5. _____ _____

6. _____ _____

7. _____ _____

8. _____ _____

How long did it take you to get them all?

Can you work out the winter themed answers to Lara's festive pictogram?

One or two of them are quite tricky!

(You can check your answers by looking on page 5)

This issue, our guest editor is Lara. She's 13 years old and you can read her IBD story on page 7.

Lara created this amazing activity for us. As guest editor, she also helped us choose the design of the newsletter, wrote her story and helped us check through everything before it went to print. Thank you for all your help Lara!

Would you like to be our guest editor and help create a future newsletter? Let us know -

claire.glemas@nhs.net