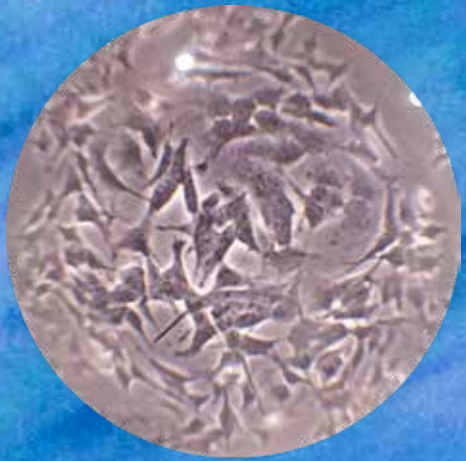
You, Me and Us



Dr Kirsty Ferguson
Scientist and Poet

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Meet the poet

Hi, I'm Kirsty. I live in the East of England and I work as a scientist at the University of Cambridge.

My research focuses on the intersection of stem cell and cancer biology - where development goes awry, and tumours develop.

I completed a PhD at the University of Edinburgh working on the molecules driving 'cancer stem cells' in an aggressive adult brain cancer called glioblastoma.

Outside of the lab, I am an aspiring poet. I believe observation is an essential process to both science and poetry, and find that writing poetry helps to improve my ability to observe the world and communicate my thoughts and ideas.

Discover the research

I am now a Research Associate in the laboratory of Professor Anna Philpott at the Cambridge Stem Cell Institute, where we research neuroblastoma - the most common extracranial solid tumour in children.

These tumours occur when immature cells of the developing sympathetic nervous system fail to specialise properly and begin dividing uncontrollably.

In the Philpott research group, we look for ways to specialise or ‘differentiate’ these tumours using drugs, to both stop the cancer cells from dividing and lead them down their correct developmental path.

Explore the collection

This poetry collection, *You, Me and Us*, reflects on patient tissue donation (the ‘you’), life as a research scientist and research culture (the ‘me’), and patient perspectives (the ‘us’) as cancer likely affects us all in some form during our lives.

I began writing poetry in the Covid-19 lockdowns during which reading and writing poems provided a great deal of comfort and helped me to become more observant of my surroundings.

Through this collection, I hope to both provide the public and patients with new insights into the process of cancer research and help scientists take a step back from minutiae in the lab to observe their work from different perspectives.

About the poem: *Legacy*

When tumour tissue is donated by a patient, the cells can be grown in the laboratory into what is called a ‘cell line’. These cells form an integral part of pre-clinical research, leaving a legacy behind that will help improve future lives.

Anonymous identifiers are given to these cells in the lab, such as the neuroblastoma cell lines ‘SK-N-BE(2)-C’ and ‘IMR-32’. However, behind this string of letters and numbers is a person that we as scientists know very little about.

I hope this poem both inspires patients and their families to consider tissue donation for research and provides some comfort knowing the invaluable legacy this leaves.

For scientists, it reminds us to take a step back and appreciate the life beyond the letters.

Legacy

S K N B E two C,
Did you live to see the moon?
I M R thirty-two,
Did you see the summer through?

Kelly, LAN five and S Y five Y,
If you perished, it was not in vain.
You can rest in peace, in the knowledge that
Your legacy here remains.

About the poem: *It's about time*

I find it quite amazing that we can grow cells in the lab from a patient's tumour that was removed decades ago. *It's about time* considers this concept of time, from a patient in 1971 to a scientist in 2023.

Research takes time and involves incremental change, yet there is no denying the vast improvements in our knowledge and treatment of cancer over recent decades. And this research will continue, day after day, until cancer has no tomorrow.

It's about time

It's nineteen seventy-one,
And a young boy of four
Has a tumour removed.
It's twenty twenty-three
And his cells of fifty-two
Are frozen in a time capsule.

It's nine thirty am
On September the third,
A scientist is deep in thought.
It's about time
To stop these cells,
To end their evil onslaught.

Too many children
Have their lives cut short
To cancer, a great sorrow.
It's about time
To stop the clock.
Ensure cancer has no tomorrow.

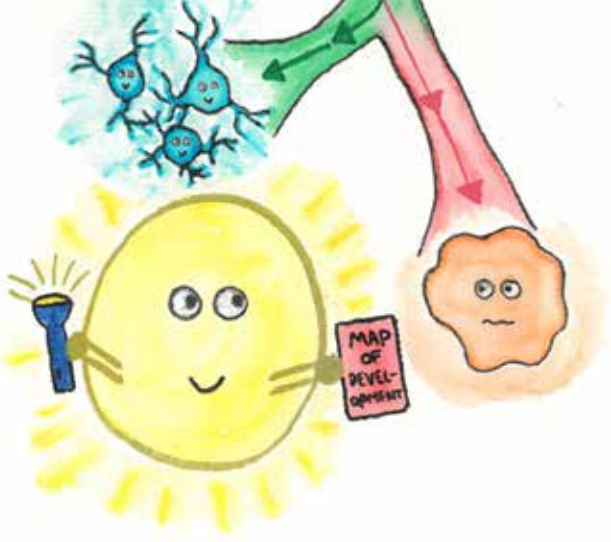
About the poem: *Kindness*

In the Philpott laboratory we are working towards discovering new therapies for the childhood cancer called neuroblastoma.

Neuroblastoma is formed by cells in the developing nervous system that go down the wrong path. Instead of becoming specialised cells, such as neurons, they begin to divide uncontrollably.

We are investigating ways of ‘differentiating’ these cells, that is sending them back down the path that development intended. Such therapies could present a kinder treatment for developing infants, as the treatment does not aim to kill the cells.

In the poem *Kindness*, the kinder treatment is directing neuroblastoma back to ‘neuron-end’ with a map of development. With this poem I hope to convey the aim of our research both to adults and children.



Kindness

Neuroblastoma,
You look a bit lost,
What are you doing here?
I think you took
A wrong turn somehow,
And should have turned right back there!

Here take this map,
To neuron-end,
And follow the steps with care.
And this torch,
To light up your path –
Soon you'll find your way there.

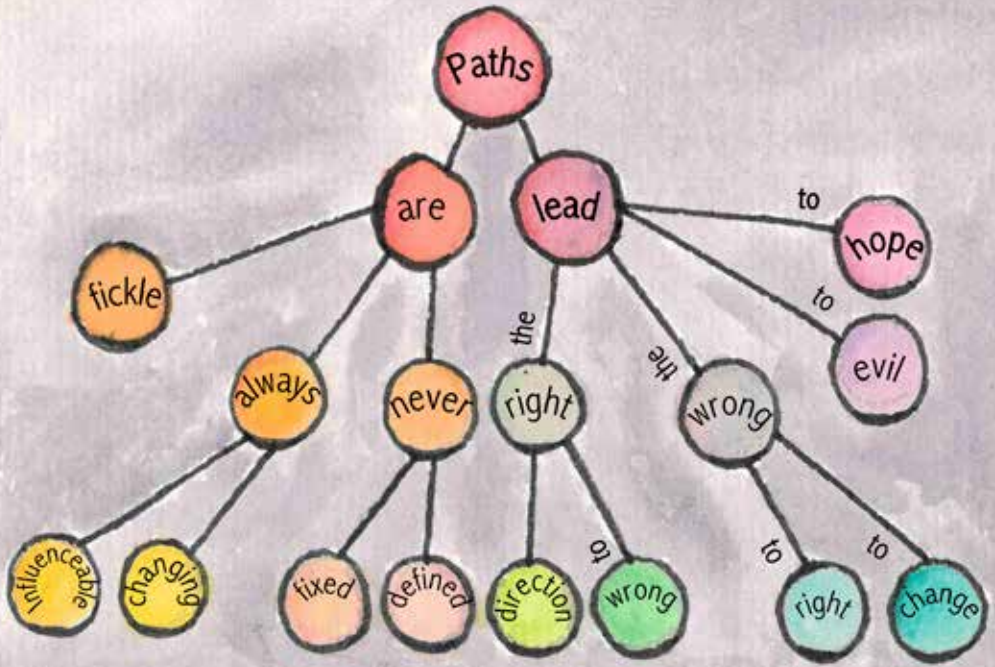
About the poem: *Path-finding*

Path-finding is depicted in the form of a stem cell hierarchy: the master stem cell, which can divide and become many different specialised cells is at the top, and cells become progressively more specialised through different paths as you move down the tree.

Sometimes these paths go wrong. For example, in neuroblastoma cells become stuck in an immature state. In this way, paths can lead to evil. However, paths are changeable and can also lead to hope; we are researching ways of manipulating this to send cancer cells back down the 'right' path that development intended.

The reader is invited to take their own path, exploring the different possibilities this poem can take, and remembering, finally, that the fickleness of nature means that paths can lead to evil, but it also means that they can lead to hope.

Path-finding



About the poem: *Ideas*

Keeping detailed notes and records is a vital part of being a scientist. Of course, our laboratory books are often regimented and structured for planning and performing experiments. However, science is very creative, and we must also make records of our ideas.

For me, these thoughts are often more fleeting and chaotic, just like when I write poetry! And as with all ideas, writing and 'immortalising' them often provides a new sense of clarity.

Ideas

Ideas swirl around my mind,
In a chaotic condensate.
Ideas flit from side-to-side,
As a pendulum oscillates.

Sometimes ideas
Pass through like birds –
In flight to a faraway land.
I have to catch them
By the tail,
A feather in my hand.

Quick! Fashion a quill,
Find some ink,
Or I know I'll forget this later.

The ideas they flap,
they swing and compact,
Until the moment,
They're immortalised on paper.

About the poem: *Observations*

For me, poetry is inspired by observations; I began writing poetry during the Covid-19 lockdowns when I stopped to better observe the world around me.

In scientific research, observations are often the foundation upon which hypotheses are built. Yet sometimes it is hard to cut out the noise and take a step inwards, or outwards. Indeed, to stop and observe, is a skill I'm always learning, both inside and outside the laboratory.

Observations

Take a little
Time to observe,
What is it I see?
Pause and stop and
Take a breath
Now - What's in front of me?

What is that?
How very strange.
I've not noticed that before.
Perhaps it's worth
Some exploration -
My mind boots up once more.

I hear a whirring
Inside my head;
The cogs are ever-turning.
To pause and stop,
And just observe,
Is a skill
I'm always learning.

About the poem: *Success in Science*

There are traditional measures of success in the research community, but should they be the only ways we define our success?

The experiences that have stood out for me during my scientific career include working in a team from around the world, sharing ideas, teaching the next generation of scientists, communicating research to the public and, ultimately, being part of a bigger picture to improve the lives of cancer patients.

These are all, I think, fundamental to a functioning and successful research community, and are successes that we can all share and recognise.

Success in Science

Success in science is hard to define,
What pops into your mind?
A Nobel Prize, the impact factor,
A finding that's one of a kind?

Success is measured in more ways than one,
What does it mean to you?
With a different perspective we can find success
In not only the year but the everyday too.

We work in a team and voice our ideas,
Two heads are better than one.
All around the world we collaborate and share
To gain knowledge that is second to none.

We pass on our skills to the next generation,
Just as others have filled our own cup.
We mentor each other and throw down ladders,
To help others that are on their way up.

We communicate our research and our aims
To make the world a cancer-free place.
We share evidence and ask questions of own,
For an inquisitive mind there is always space.

Getting through each day can sometimes be a test,
Experiments don't always go as planned.
But we pick ourselves up and think again and again,
As the more we persist the more we understand.

For each day brings us a step closer,
To ease a patient's pain and struggle.
Every experiment like a pin prick,
That is gradually bursting the cancer bubble.

Success in science we can all share,
Even in ways we may think are small.
For these make up the foundation of research,
So, let's recognise and celebrate them all.

About the poem: *Think, Pipette, Repeat*

This poem was inspired by one of my favourite poems, ‘The Orange’ by Wendy Cope, and a break I shared with a lab colleague. It was simple - a walk downstairs, a sweet macaroon and a good old laugh. And it was enough to set us up for the rest of the day.

Sometimes ten minutes is better spent clearing your mind than trying to squeeze more into an already saturated one.

Ask a colleague and who knows, maybe this small interaction will brighten both of your days.

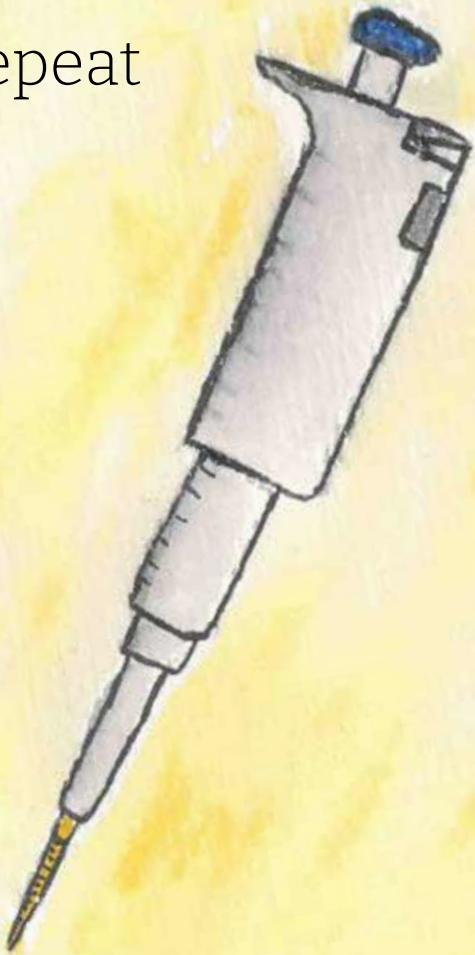
Think, Pipette, Repeat

It's time to take a break,
Take a walk outside.
Grab a coffee with a friend,
A moment to clear your mind.

Today I took a break
And I bought a macaroon;
Mrs Crimble's finest baking,
Her face on a wooden spoon.

The slogan made us all chuckle,
To 'Live, Love and Bake'.
We shared ideas of lab mottos,
Laughed 'til our tummies ached.

Yes, it was time to take a break,
And enjoy a sweet treat.
Back to work refreshed,
Ready to 'Think, Pipette, Repeat'.



About the poem: *The Words Unspoken*

In this project I wanted to portray the voices of those with lived experience of neuroblastoma. Tragically this disease mostly inflicts infants and young children under five, who sadly may have not even spoken yet.

The poem *The Words Unspoken* is in remembrance of the children lost to this devastating disease and represents their words that remain unspoken.

This is a poem
Of the words unspoken

About the poem: *Fly High*

Fly High was inspired by quotes from personal stories of neuroblastoma patients and their families shared by Neuroblastoma UK – these words are italicised in the poem.

Neuroblastoma UK is a national charity dedicated to finding a cure for neuroblastoma. They fund research into improving both diagnosis and treatment of the disease.

It was important to me to represent the voices of patients and their families with lived experience of neuroblastoma in this project, including those who have tragically passed away and those who look back on their childhood experience of neuroblastoma and how it has shaped their lives now.

The message ‘fly high’, words from Beth’s story, speaks to children who are now angels, those who have survived neuroblastoma and fly high despite side-effects, and families who continue to navigate this path alongside their children and courageously share their stories.

Thank you to Neuroblastoma UK and all those who allowed me to share their words through this poem, namely Georgia’s dad, Richard; Sayra; Becky; Charlotte; Lauren; and Beth’s mum, Jill.

You can read their stories online at
www.neuroblastoma.org.uk/personal-stories

Fly High

None of us
Had heard the word
Neuroblastoma,
Until that frightful day.

Just *18 months old*,
Tumour *size of a fist*,
With *ten per cent chance*
of surviving, they say.

Then *chemotherapy, surgery*,
A *stem cell transplant*;
We were so proud
Of her fighting spirit.

Radio- ,
Differentiation- ,
Immuno-therapy;
And he *never complained* one bit.

This cancer -
It was relentless.
What would we fight
It with now?

There's a lasting impact
When a child has cancer,
But we continue through,
Somehow.

My little *angel*
Slipped away that morning,
As I whispered,
"I love you, fly high".

Now up above ,
With wings they spread,
Sparkles of *hope*
In the deep blue sky.

See *everyone*
needs a bit of hope,
Even just,
A tiny glimmer.

You never know the journey
Life will take you on-
Remember to look
For the things that shimmer.

Put your heart and soul
Into what you want to achieve-
Don't let cancer
Hold you back.

I truly wish you
A future you deserve,
Fly high,
And never look back.

The poems in this collection were written as part of the University of Cambridge's Creative Encounters Words project, a public engagement with research initiative led by David Cain.

They were first published in the Creative Encounters collection *The Hope of Knowing Love: Research Poems to Open Our World* and exhibited at the Cambridge Festival in Spring 2023.

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Discover more at **www.stemcells.cam.ac.uk/engage**
and follow us on social media **@SCICambridge**