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Siobhan Mather

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Our mission is to make the discoveries that defeat cancer.

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## Editorial

As a leader in childhood cancer research, we strive to provide better, kinder treatments. Our patient story on page 10 shows why this work is so crucial.

The cover of this issue features Siobhan Mather, who was diagnosed with neuroblastoma aged two.

Unfortunately, like many other patients, she sadly passed away after her cancer became resistant to the treatment she had been taking.

Her parents were inspired by Siobhan's memory to support research to help others – as they explain on pages 10-11.

At The Institute of Cancer Research, we can't accept that any cancer patient – let alone a young child – should ever be told that there are no treatment options left for them.

We have been at the forefront of some of the most exciting discoveries in cancer research but despite huge progress, survival rates vary significantly among cancer types.

Our aim is to ensure that patients with every type of cancer, including those hardest to treat, benefit from research advances (read more on pages 6-8).

But research is expensive and we can't do it on our own. We are incredibly fortunate to have the support of family charity partners, including Siobhan's Superstar Legacy, set up by Siobhan's family.

And we are also reliant on generous donations and regular gifts from people like you. We are so grateful for your support.

Over the summer – with the help of two British sporting champions – scientists, supporters and patients joined us for an inspirational run which saw FINISH CANCER imprinted across the UK coastline (see page 9).

It inspires us every day to know that you are running the race against cancer side by side with us.

We have an ambitious strategy to defeating cancer, and every step we take together will bring us closer to this shared goal.

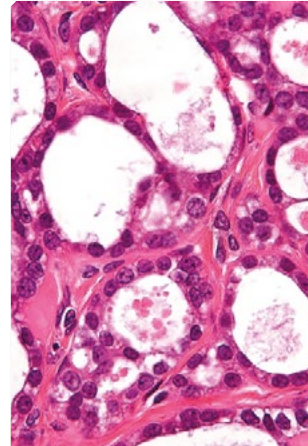
**Professor Kristian Helin**  
Chief Executive  
The ICR

## Drug combination shrinks ovarian tumours

Our researchers have found that a new drug combination is twice as effective as the next best treatment for a rare type of ovarian cancer which doesn't respond well to current drugs.

In a study, tumours shrank significantly in nearly half the patients treated with the new combination. Together, the two drugs, avutometinib and defactinib, block proteins responsible for cancer's growth, survival and drug resistance.

Lead investigator Dr Susana Banerjee, who is Group Leader in Women's Cancers at the ICR and Consultant Medical Oncologist for The Royal Marsden NHS Foundation Trust Gynaecology Unit, hopes this work will translate to changes in clinical practice.



Ovarian cancer cells (Credit: Michael Bonert, CC BY-SA 3.0)

**2x**

The new drug combination avutometinib and defactinib is twice as effective as the next best treatment for a rare type of ovarian cancer



We hope this new treatment will become the standard of care for women with advanced low-grade serous ovarian cancer

## Cycling campaign supports new breast cancer research student



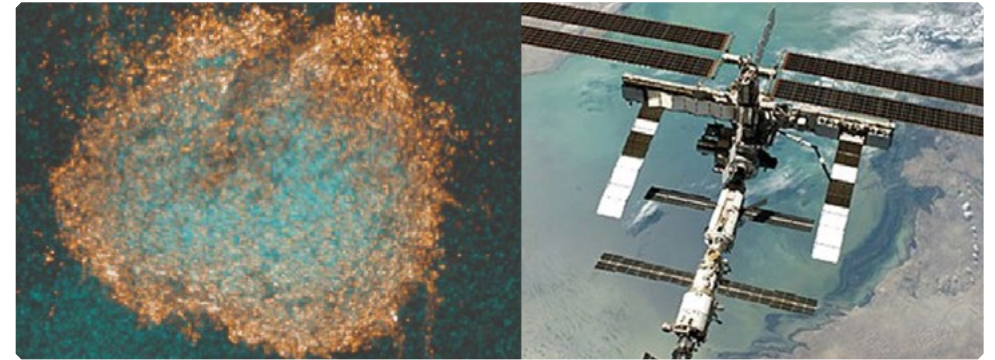
Hwei Minn Khoo

A new PhD student funded by the One More City campaign has joined Dr Rachael Natrajan's laboratory to research an aggressive form of advanced breast cancer.

Over the next four years, Hwei Minn Khoo will investigate how these advanced breast cancers develop resistance to chemotherapy. The goal is to identify effective new treatment strategies to improve the outlook for people with the disease.

One More City was established by Christine O'Connell after she was diagnosed with breast cancer at age 40. This is the second PhD studentship funded by the campaign.

## Cancer cells set to be launched into space



Left: DIPG cells (Credit: Elisa Izquierdo); Right: International Space Station (Credit: NASA)

A pioneering research project led by the ICR's Professor Chris Jones will launch childhood cancer cells into space to conduct experiments in 'microgravity' aboard the International Space Station.

This innovative collaboration with the UK Space Agency aims to expand our understanding of diffuse midline glioma (DIPG), a cancer that often affects very young children and is, tragically, always fatal.

**Did you know...?**

The 3D structure of cancer cells can grow much larger in space than on Earth, making it easier to study

### £1 million grant funds cutting-edge microscopy equipment

The Wolfson Foundation has awarded a generous £1 million grant towards the cost of state-of-the-art microscopy equipment at the ICR.

The new platform will enable our researchers to probe the inner

workings of cancer cells in unprecedented detail to advance their understanding of key molecular processes driving cancer growth and spread.

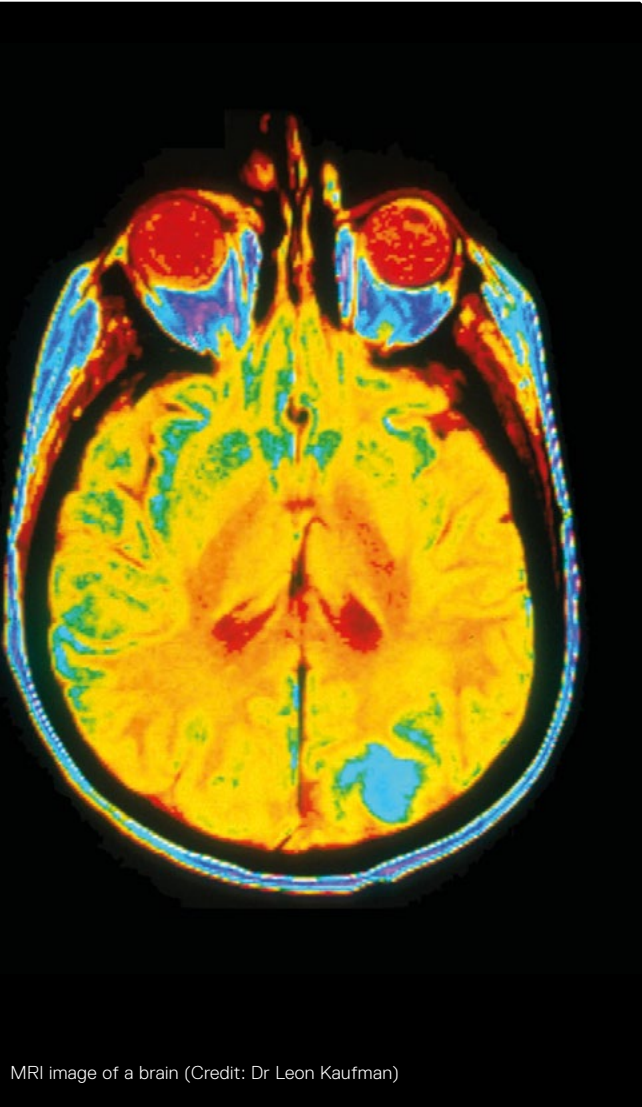
Being able to visualise these molecular processes

more clearly will allow us to target them precisely. It will help us determine which drugs are most likely to work for individual patients, ultimately leading to better treatment outcomes.



# Transforming treatment for people with cancers of unmet need

Patient outcomes are improving rapidly, but not across all types of cancer. Scientists at the ICR are working to change this.



MRI image of a brain (Credit: Dr Leon Kaufman)

The past couple of decades have seen huge leaps in understanding, preventing and treating cancer. The disease is no longer considered a death sentence. But survival rates vary significantly among cancer types. Cancers of unmet need – those lacking an effective treatment – still have a much poorer prognosis, accounting for half of UK cancer deaths.

These cancers are often not prioritised by pharmaceutical companies and funders, and they continue to be very difficult to treat.

## Translating progress across all cancer types

At the ICR, we work hard to understand the complex biology of cancers of unmet need so that we can develop new treatment approaches and improve patients' lives.

Our teams' research spans a range of these cancers, including glioblastoma, head and neck, oesophageal, pancreatic and sarcoma. Some of our projects are delivering significant progress in addressing often-overlooked cancers.

## Building a better understanding of mesothelioma

Funding from the CRIS Cancer Foundation allowed us to establish a new team to focus on malignant mesothelioma, an aggressive form of cancer that typically results from exposure to asbestos. The researchers, led by Dr Astero Klampatsa, are investigating why the immune system response to mesothelioma is so poor. They are also developing CAR T-cell therapies, which use engineered immune cells from the patient to attack cancer cells.



## Finding new ways to tackle pancreatic cancer

Dr Anguraj Sadanandam, whose work focuses on tailoring cancer treatment to the individual, co-led a recent study that may lead to new treatments for pancreatic cancer. This disease remains one of the most deadly types of cancer. After finding that pancreatic cancer cells use uridine for energy when glucose is limited, the researchers halted most tumour growth by limiting its availability. They are now working on creating new treatments using this approach.

## Improving outcomes for children with brain cancer

Professor Chris Jones, who is leading our research into paediatric brain cancers, has established a new Centre of Excellence, funded by Brain Tumour Research. The Centre will bridge the gap between drug discovery and treatment. It will aim to improve survival rates among children with high-grade glioma brain tumours, which have remained unchanged for decades.



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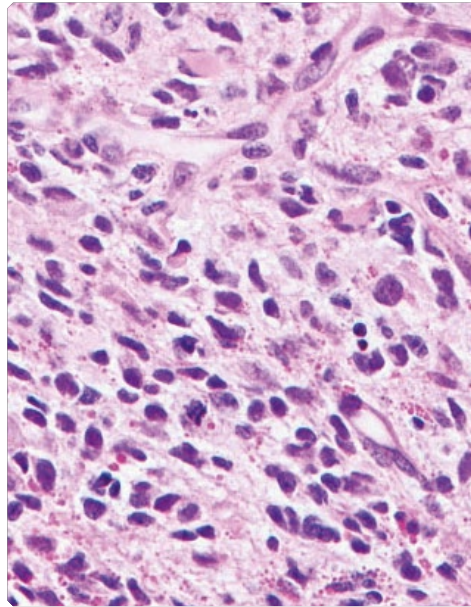
We are working to develop new drugs, including those that target especially challenging and novel targets – drugs that we hope will improve the survival rates of cancers that remain hard to treat.

**Taking a deep dive into cancers of unmet need**

At the ICR, we are using cutting-edge techniques such as AI, liquid biopsies and advanced microscopy to unravel cancer's complexity and ecosystems. This is helping us not only to tailor treatments effectively but also to understand why cancers can have such different responses to drugs and radiotherapy. We can apply all this knowledge to hard-to-treat cancers, with the aim of saving, extending and improving patients' lives.

Our research into cancers of unmet need can also provide new insights into tumour biology more broadly, allowing us to apply our findings across cancer types.

It is only by addressing all types of cancer, including those that are most difficult to treat, that we can hope to defeat this disease.



Glioma cells (Credit: David Ellison)

**“I’m now fighting with hope”**

John Dabell was diagnosed with advanced head and neck cancer in 2009. After extensive surgery and treatment, he recovered, but 11 years later, he was diagnosed with a tumour in his throat and told he didn't have long to live. He has since been successfully treated with immunotherapy and his latest scans showed no evidence of disease.



“““

I'm heartened that scientists at the ICR are unravelling the complexity of cancer. Their discoveries are leading to new treatments and ultimately saving more lives.

I still live day by day because I know things can turn on a sixpence – but I'm now fighting with hope, confidence and optimism.

**Sporting champions kick-start race to finish cancer**

Over the summer, we launched an inspirational run which saw 'FINISH CANCER' imprinted in the sand 167,000 times along 100 miles of British coastline.

Olympic gold medallist Greg Rutherford MBE and Paralympic gold medallist Erin Kennedy MBE kick-started our race to finish cancer, wearing our bespoke running shoes to help to raise awareness and support for our world-leading research.

Together with our scientists, supporters, and those affected by cancer, they left

167,000 footprints in the sand to symbolise the number of people who die of the disease each year in the UK – lives that could be saved if we achieve our goal of defeating cancer.

Erin and Greg say this is the most important race they have ever taken part in and it means a lot to them.

Last year, Erin was diagnosed with breast cancer and received 15 rounds of chemotherapy before undergoing a life-changing double mastectomy.

Greg's life has also been strongly affected by the disease. In 2008, he lost his grandfather to cancer and, in 2020, he experienced his own testicular cancer scare.

Read more, and find out how you can take steps with us to help more people survive cancer: [ICR.ac.uk/LetsFinishCancer](https://www.icr.ac.uk/LetsFinishCancer)



Greg Rutherford MBE and Erin Kennedy MBE



# “There must be better, kinder treatments for children”

In July 2017, Sarah and Antony Mather took their two-year-old daughter, Siobhan, to the doctor after she became lethargic. She was diagnosed with a tumour above her adrenal glands – it was neuroblastoma.

Following extensive treatment, she went into remission, but the cancer returned. After she passed away aged four, her

parents chose to support our research to help other families.

“Siobhan was so inquisitive; everything was so exciting to her. She always had a smile on her face and a special bond with her two siblings, Ciara and Liam.

“Cancer is horrible regardless of age, but it’s not right to lose a child. Currently we use the same drugs to treat children that are used in adults. There must be better and

kinder treatments for this devastating disease. Without research, we’re not going to find out what those are.

“If we can help another family to not have to go through this, it’s the least we can do. We’ve set up Siobhan’s Superstar Legacy to do just that.

“The ICR is researching many different areas of cancer, with real hope for the future, so we decided to fund some of its work.

“Research is what’s going to save these children. We hope that one day, researchers are going to say, ‘we’ve got this.’”



Siobhan’s Superstar Legacy is supporting the work of Dr Sally George, our new Group Leader in Developmental Oncology.

As both an academic and a clinician, Dr George can use her work to bridge the gap between research and clinical practice.

Siobhan’s Superstar Legacy’s generous donation will help enable Dr George and her team to find more effective and kinder treatments for children with neuroblastoma.

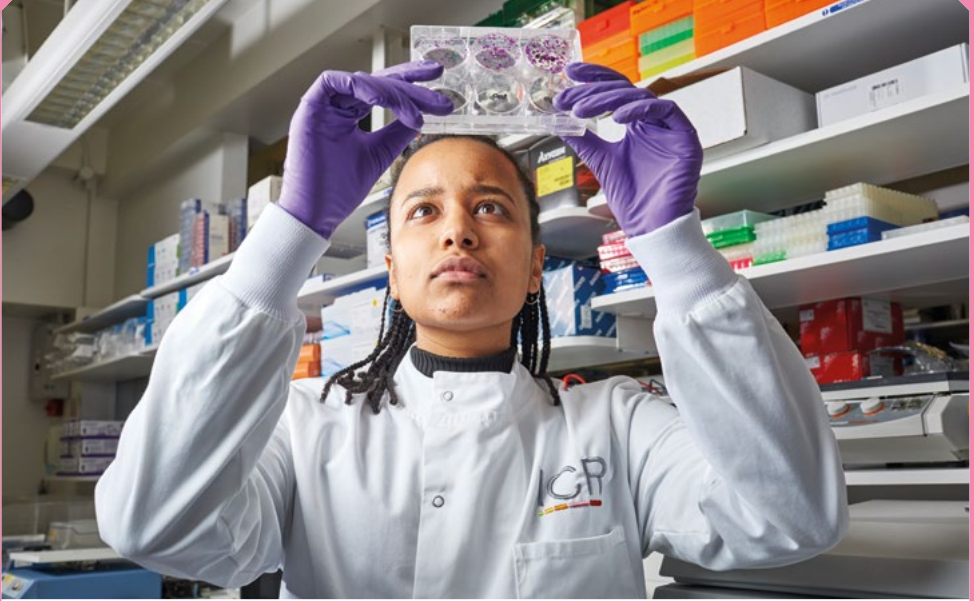
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It’s always humbling to meet our donors and supporters and to hear about their journeys. Spending time with people with lived experience refreshes my focus and reminds me why I’m doing this research.

**Dr Sally George**







## Sustain our research with a monthly gift

Give a monthly donation to help us continue making more discoveries, finding more cures and saving more lives.

With a regular gift, you can give small amounts each month that will help sustain our research into the future and help us to keep having a real impact for cancer patients.

We have already transformed the lives of people with cancer through our discoveries in genetics, drug discovery and radiotherapy. Now we have ambitious research plans to help increase our understanding of the biology of cancer – the cancer ecosystem – so that we can develop innovative treatments for many different types of cancers.

Your monthly donations will provide us with a predictable income for our ambitious research plans – allowing us to continue making discoveries, finding smarter, kinder treatments and helping many more people survive cancer.

Together, we can  
make a difference  
to the lives of  
future generations.

Give a monthly gift today.

[ICR.ac.uk/regular-donation](https://www.icr.ac.uk/regular-donation)