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News Release

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Dolly the sheep continues to inspire 20 years after media storm

Twenty years after Dolly the sheep's dramatic introduction to the world, researchers have been reflecting on her scientific legacy.

Scientists based at The Roslin Institute – which hosted Dolly's unveiling in February 1997 after her birth the previous summer – have spoken about how Dolly continues to influence their work.

Staff at The Roslin Institute – now part of the University of Edinburgh site – say the breakthrough opened up previously unimaginable possibilities in biology and medicine.

Dolly – unveiled by a team led by Prof Sir Ian Wilmut and the late Prof Sir Keith Campbell – has been fundamental to the development of a range of treatments, including stem cell technology, the researchers say.

As the first animal ever to be cloned from an adult animal cell, news of her creation – published in the journal *Nature* – triggered intense public debate around the ethics of cloning.

Her introduction to the world not only sparked a media storm, but also inspired a new generation of scientists.

Professor Bruce Whitelaw – now interim Director of The Roslin Institute – was working at Roslin when Dolly was created. He still uses lessons learned from Dolly in his research.

Professor Whitelaw said one of the main drivers in the mid-1990s for developing cloning was to provide a cell system for genetic engineering.

He recalls: “Cloning enabled gene targeting strategies to be used. We now have now moved on from using cloning technology and instead use very efficient genetic engineering methods that can be directly applied to the fertilised egg.”

“These are based on DNA editing technology which enable extremely precise changes of the genome of animals. We apply this exciting method in farm livestock and poultry, aiming to produce animals that are less susceptible to disease.”

In making Dolly, scientists took a fully-formed adult sheep cell and effectively turned the clock back to make it behave like a cell from a newly fertilised embryo.

Ranked among the top universities in the world

Dr Tilo Kunath, Chancellor's Fellow at the University of Edinburgh's MRC Centre for Regenerative Medicine, was a PhD student in Toronto at the time.

He remembers: "Dolly really changed our view of biology, showing us that we could take adult cells and reverse them in time.

"Reprogramming cells in this way is something that I use to search for treatments for degenerative conditions like Parkinson's disease. Dolly's influence on scientists around the world will continue to impact on cell and tissue repair research for many years to come."

Dolly – who was put down in 2003 after a short illness – is now on display at the National Museum of Scotland.

The Roslin Institute receives strategic funding from the Biotechnology and Biological Sciences Research Council.

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