

## Professor of Public Engagement in Science Alice Roberts reveals secrets of the Ice Age

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Clinical anatomist and broadcaster Alice Roberts, who was recently appointed as Professor of Public Engagement in Science at the University of Birmingham, explored the secrets of the Ice Age in a new BBC2 documentary on air Wednesday 4 April.

We spoke to Professor Alice Roberts about her experience filming this documentary.

### What is so fascinating about the woolly mammoth, and what does it tell us about the Ice Age?

The woolly mammoth is perhaps the first animal that comes to mind when we think about the extinct fauna of the Pleistocene, or Ice Age. It seems very odd to us today that there were elephants thriving right across Europe and Asia, and in North America too (the Columbian mammoth). What's really remarkable, though, is just how much we know about this extinct creature. Scientists have discovered and analysed the bones and tusks of woolly mammoths, unlocking secrets from the past about mammoth biology. From analysis of mammoth DNA, we even know that they had a special, cold-adapted type of haemoglobin, which could deliver oxygen to body tissues at very low temperatures. I was astounded to discover just how much information is locked away inside tusks; I met mammoth expert Dan Fisher in Ann Arbor, Michigan, and he sliced open a tusk to show me the yearly growth lines inside it. And under magnification, you can even see daily lines. It's phenomenal.

### What locations did you film the documentary in? Were there any extremes or difficulties?

We filmed a fair bit with various scientists in the US, but we also went on expeditions to Siberia, to the Yamal peninsula last June (when the ice is rafting in rivers, making it very difficult to get around in the tundra), and to Yakutia last November. It was properly cold then: minus 40 degrees. You can imagine what a challenge it is trying to film in those conditions! Keeping warm was one challenge, operating camera equipment is another! But it was incredibly exciting to go to the far north of Siberia and intercept a team bringing in a new mammoth discovery - and this time it wasn't just bones and tusks, this was a complete ice mummy of a mammoth, and I was one of the first people to see it. What a privilege.

### What do you hope will happen as a result of this research? Scientists across the world are looking at producing a mammoth embryo from extracted DNA, what is your view on this?

I hope that we'll learn more about the biology of woolly mammoths in particular, but also uncover clues about their extinction. Understanding extinction events in the past will, I think, help us to make sensible decisions about protecting endangered species here and now. And I don't think we should be spending time and money on trying to resurrect extinct species (although some scientists are certainly trying) when there are species that are dangerously close to extinction right now. I'd rather see that effort diverted into trying to save bonobos, for instance.

Re-watch the programme '[Woolly Mammoth: Secrets of the Ice Age \(http://www.bbc.co.uk/programmes/b01fkcdn\)](http://www.bbc.co.uk/programmes/b01fkcdn)' on the BBC iPlayer.

**Watch** (<http://www.youtube.com/watch?v=ZBPYFujUa5s>) Professor Alice Roberts speaks about her role as Professor of Public Engagement at the University.

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