

Speaker biography

Elizabeth Murchison is Reader in Comparative Oncology and Genetics at the University of Cambridge, Department of Veterinary Medicine. Her laboratory studies the genetics, evolution and host interactions of clonally transmissible cancers. There are only two known naturally occurring clonally transmissible cancers, and these are the Tasmanian devil facial tumour disease (DFTD) and the canine transmissible venereal tumour (CTVT). These two clonal cell lineages are spread between individual hosts by the physical transfer of living cancer cells. DFTD is spread by biting and is threatening its host species, the Tasmanian devil, with extinction. CTVT is a sexually transmitted cancer that affects dogs and is found around the world. Elizabeth uses genetics and genomics to understand the origins, evolution and geographical spread of these two unusual diseases.



Elizabeth grew up in Tasmania, Australia, and studied biomedical science at the University of Melbourne. She travelled to New York to perform her PhD at Cold Spring Harbor Laboratory under the supervision of Prof Greg Hannon. Her PhD, which she was awarded in 2007, focussed on the endogenous functions of the RNA interference machinery in mammals. Elizabeth first heard of the Tasmanian devil facial tumour disease (DFTD) while at Cold Spring Harbor Laboratory. The key turning point in her career occurred in early 2006, when she came across a wild roadkill Tasmanian devil with symptoms of DFTD in remote central Tasmania. She then decided to use genetics to further understand the biology of DFTD.

In 2008 Elizabeth returned briefly to Australia to perform postdoctoral studies at the Australian National University, and in 2009 she took up an Australian government fellowship in the Cancer Genetics and Genomics Group at the Wellcome Trust Sanger Institute, UK. She continued her research at the Sanger Institute as an EMBO Long-Term Fellow, sequencing the genome of CTVT and performing a comparative genetic analysis of geographically dispersed canine transmissible venereal tumours. Elizabeth joined the Department of Veterinary Medicine at the University of Cambridge in 2013.

In 2009 Elizabeth was awarded a L’Oreal-UNESCO For Women in Science UK and Ireland Fellowship and in 2012 she was the recipient of the Eppendorf Award for Young European Investigators. She was selected to present the 2014 Balfour Prize Lecture by the Genetics Society and in 2012 she was the recipient of an MRC Jewellery Heirloom Award. In 2011 she delivered a TED talk entitled “Fighting a Contagious Cancer” which has been translated into 30 languages and viewed by a global audience more than 300,000 times.