ANU Seminar

DIRECTOR'S SEMINAR SERIES RESEARCH SCHOOL OF BIOLOGY

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Genetics and evolution of clonally transmissible cancers in dogs and Tasmanian devils

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Elizabeth Murchison is a Research Fellow in comparative cancer genomics at the Wellcome Trust Sanger Institute, Cambridge, UK. She graduated with a Bachelor of Biomedical Science in 2002 from the University of Melbourne, and obtained a Ph.D. in 2007 from Cold Spring Harbor Laboratory, New York. She currently holds Research Fellowships at King's College Cambridge and at the European Molecular Biology Organisation, and she was a 2009 recipient of the L'Oreal-UNESCO For Women in Science UK and Ireland Fellowship.

The Tasmanian devil, the world's largest marsupial carnivore, is facing possible extinction in the wild due to a transmissible facial cancer known as Tasmanian devil facial tumour disease (DFTD). DFTD is spread when living cancer cells are spread between animals by biting. In DFTD, the living cancer cell itself is the infectious agent of disease and it remains unclear why these cancer cells are not detected and rejected by the devil's immune system. The distressing plight of the Tasmanian devil has drawn attention to the existence of transmissible cancers, parasitic cancers spread by the transfer of living cancer cells between hosts. Canine transmissible venereal tumour (CTVT) and Tasmanian devil facial tumour disease (DFTD) are the only two known naturally occurring transmissible cancers that are spread by the direct transfer of living cancer cells. Elizabeth will discuss genetics, evolution, pathogenesis and epidemiology of these clonally transmissible cancers.

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