



Cambridge Society for the Application of Research

Genetic Screens in Embryonic Stem Cells

Professor Allan Bradley

Director Emeritus, Wellcome Trust Sanger Institute, Cambridge

WOLFSON LECTURE THEATRE CHURCHILL COLLEGE

7.30 p.m., Monday 5th March, 2012

In 1984 Liz Robertson and I demonstrated that embryonic stem (ES) cells could be transmitted through the germ line of mice and two years later reported that ES cells could be used to generate mice with mutations in endogenous genes. This work contributed to the award of the Nobel Prize in Physiology or Medicine to Martin Evans in 2007.

Mice can be generated with changes as subtle as an alteration in a single nucleotide or as massive as the deletion, duplication or inversion of millions of base pairs, a technology that has become known as chromosome engineering. My laboratory has used ES cell technology extensively, generating and analysing many of the first generation of mouse knockouts as well as helping numerous other laboratories to utilize this technology. This work has provided key functional information on many genes with an emphasis on cancer, DNA repair and embryonic development.

About the speaker:

Professor Bradley is former Director of the Wellcome Trust Sanger Institute, where he holds the title of Director Emeritus. He leads the Mouse Genomics Team, which uses the mouse as a model system to investigate the function of individual gene. He received his BA, MA and PhD in Genetics from University of Cambridge and his PhD studies in Martin Evans laboratory laid the foundation for making knockout mice.

In 1987, he took up an appointment as an Assistant Professor at Baylor College of Medicine, Houston Texas. He was appointed a Howard Hughes Medical Institute Investigator in 1993 and was promoted to full Professor in 1994. At The Baylor College of Medicine, his laboratory developed techniques, technology and tools for genetic manipulation in the mouse.

In 2000, he became Director of the Sanger Centre, now called the Wellcome Trust Sanger Institute. He has established genetic analysis of gene function, which includes among other projects the largest systematic gene knockout project ever attempted in ES cells funded by the European Union (EUCOMM) and National Institutes of Health (KOMP).

In 2002 he was honoured by election to the Royal Society. Allan runs an active research group of students and fellows who continue to develop tools and technologies for new mouse genetics as well as to explore gene function on a large scale.

Additional note

The CSAR Lectures are open to all; CSAR members are admitted free. Non-members are asked to make a nominal donation of £3.00.

Coffee and biscuits will be available in the Wolfson Foyer from around 7pm until the start of the lecture. Location information: <http://www.chu.cam.ac.uk/about/visitors/directions.php>

The talk will be held in the lecture theatre in Wolfson Hall (4):

