

Allan Bradley will be awarded the 9th ISTT Prize at the TT2013 meeting



31 January 2012. The International Society for Transgenic Technologies (ISTT) is pleased to announce that Professor Allan Bradley, Director Emeritus of the Wellcome Trust Sanger Institute (WTSI), and leader of the Mouse Genomics Team at WTSI, will be awarded the next (9th) ISTT Prize for his outstanding contributions to the field of transgenic technologies. Professor Allan Bradley will receive the award at the next Transgenic Technology meeting (TT2013), which will be held in Guangzhou (PR China) on February 25-27, 2013. This award has been agreed upon by the ISTT Prize Committee, consisting of the ISTT President and Vice-President, the CEO of genOway, as the company generously sponsoring the award, and the previous ISTT Prize awardees.

Allan Bradley (Picture kindly provided by WTSI)

In awarding this prize to Dr. Bradley, the ISTT Prize committee acknowledges his many fundamental contributions to the science and technology of manipulating the mouse genome. His pioneering mouse embryonic stem (ES) cell work in the 1980s, demonstrating germ-line transmission and the great potential of ES cells to generate mice carrying mutations in endogenous genes, established milestones in a field that saw the award of the 2007 Nobel Prize in Physiology or Medicine to Mario Capecchi, Martin Evans, and Oliver Smithies. Later, Dr. Bradley generated a number of broadly relevant knockout mouse models (for example p53, Rb, Wnt-1) that are still used regularly today. His subsequent research has developed new methods for the genetic analysis and genetic modification of mice (such as chromosome engineering and the functional genetic analysis of mouse chromosome 11). These developments have been instrumental for advancing mouse genetics studies and the use of mice to understand the human genome. Furthermore, his strong vision and leadership at the Wellcome Trust Sanger Institute, which he directed from 2000-2010, was key to creating the EUCOMM/KOMP (IKMC) initiative to systematically disrupt every gene in the mouse genome, resulting in a massive impact on the field of transgenic technologies.

Dr. Bradley received his BA, MA and PhD in Genetics from the University of Cambridge. His PhD studies in Martin Evans' laboratory, completed in 1984, laid the foundation for making knockout mice.

In 1984 Allan Bradley and Liz Robertson demonstrated that ES cells could be transmitted through the germ-line of mice (Bradley et al. 1984, Nature) and two years later reported that ES cells could be used to generate mice with mutations in endogenous genes (Kuehn, Bradley et al. 1987, Nature).

In 1987, he took an appointment as Assistant Professor at Baylor College of Medicine, Houston, Texas. He was named as a Howard Hughes Medical Institute Investigator in 1993 and was promoted to full Professor in 1994. At Baylor, his laboratory played a seminal role in developing the methods, technology and tools for genetic manipulation in the mouse. As a result, mice can now 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 with a technology now known as chromosome engineering (Ramirez-Solis et al. 1995, Nature). The Bradley laboratory used ES cell technology extensively, generating and analysing many of the first generation of mouse knockouts (McMahon & Bradley, 1990, Cell; Donehower et al. 1992, Nature; Lee et al. 1992, Nature; Jones et al. 1995, Nature; Sharan et al. 1997, Nature) while helping numerous other laboratories to utilize this technology. This work has provided key functional information for many genes with an emphasis on cancer, DNA repair and embryonic development. While at Baylor, Bradley created the Mouse Club, originally consisting of meetings among his, Phil Soriano's, and Gerard Karsenty's laboratories, with Richard Behringer's lab joining later. The Mouse Club has since expanded and has been meeting for more than two decades, every Tuesday afternoon. Richard Behringer remembers: "I was always impressed that Allan would always attend the Mouse Club if he was in town. He put training of students and postdocs as a high priority." Many former colleagues and trainees from Allan Bradley's lab have fond memories of his mentoring and support. Y. Eugene Yu says: "When tropical storm Allison flooded Houston and the Texas Medical Center in 2001, which killed 90,000 research animals, Allan flew in from UK immediately after the news broke. He personally led the effort in the devastated animal facility to rescue the remaining precious mouse strains, many of which were unique."



In November 2000, Allan Bradley returned to the United Kingdom as Director of the Sanger Centre, now called the Wellcome Trust Sanger Institute (WTSI), shortly after the first draft of the human genome sequence was released. In 2002, he oversaw the publication of the mouse genome sequence.

The ISTT Prize (by Bela Rozsnyay)

His 10-year plan for the WTSI aimed to transform it from a centre that just sequences DNA to one that studies the biology of sequences. First focussing on creating the required physical infrastructure, then diversifying the institute's research, his efforts have helped turn the WTSI into an international hub of science, with strong programs in human genetics, informatics, pathogen genetics, and model organisms. Among other projects in which the WTSI plays a leading role is the largest systematic gene knockout project ever attempted in ES cells, funded by the European Union (EUCOMM) and National Institutes of Health (KOMP), and now coordinated by the International Knockout Mouse Consortium (Skarnes et al., 2011 Nature; Prosser et al., 2011 Nature Biotechnology)

Under Allan Bradley's direction, the WTSI has become a reference centre for outreach activities, offering teaching resources, welcoming students for work placements and promoting school visits that broadcast scientific achievements to the general society; in his words "inspiring the next generation of scientists."

Allan Bradley has also been very active in commercializing the numerous novel methods his laboratory has developed over the years to engineer the genomes of mice. He is registered as a co-inventor on more than 25 patents and is a founder and Chief Scientific Officer of Kymab Limited. He also co-founded several companies, including GenPharm International and Lexicon Genetics in 1995. Using proprietary gene trapping and gene targeting technologies, Lexicon Genetics created the world's first large repository of genetically modified mouse embryonic stem cells, known as OmniBank, and established a large-scale program to discover the physiological and behavioural functions of mammalian genes, with almost 5,000 gene knockouts studied in mice. This effort is now being extended to the entire mouse genome in a public domain project coordinated by the International Mouse Phenotyping Consortium (IMPC) and funded by NIH in the USA and other funding bodies internationally.

In July 2002 Allan Bradley was elected a Fellow of the Royal Society. He has authored over 260 scientific articles and book chapters and currently runs an active research group that is exploring gene function on a large scale and continues to develop new tools and technologies for mouse genetics research.

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