

James R. Killian, Jr., Faculty Achievement Award 2009-10
Citation for *Rudolf Jaenisch*

The James R. Killian, Jr., Faculty Achievement Award was established in 1971 “to recognize extraordinary professional accomplishments by full-time members of the MIT faculty.” It is the greatest honor the faculty can bestow on one of its members. The recipient is chosen by a faculty committee from candidates nominated by their peers for outstanding contributions to their fields, to MIT and to society.

The 2009-2010 Killian Award committee is very happy to announce that the recipient of this year’s Killian Faculty Achievement Award is Dr. Rudolf Jaenisch, Professor of Biology and Whitehead Institute Founding Member. Professor Jaenisch is a pioneer in the field of mammalian developmental genetics. He has made landmark contributions to his field year after year, decade after decade, throughout his forty-year career. Indeed, as the letter-writers for his nomination case note, Jaenisch is remarkable for his “perpetual youth” and his “taste and instincts, time and again to conduct research in cutting edge areas”.

Very early in his career, Professor Jaenisch helped found the area of transgenic science, the science of gene transfer for making mouse models – or transgenic mice – now widely-used for studying human genetic diseases, including cancer and neurological disorders. This work became the foundation for his subsequent research and discoveries in stem cell biology, mammalian cloning, and the epigenetic regulation of gene expression – work which has opened up new horizons in stem cell therapy and regenerative medicine.

Professor Jaenisch’s most recent breakthrough is in cellular reprogramming. He has developed strategies for reprogramming fully differentiated adult cells into unspecialized stem cells called induced pluripotent cells, or IPS cells, which have the capability to grow into any cell type in the body. This work has enormous potential for the study and possible treatment of human diseases, through the possibility of growing healthy cells from a patient’s own cells.

Professor Jaenisch has received numerous awards and honors for his accomplishments, including the Boehringer Mannheim Molecular Bioanalytics Prize in 1997, the first Gruber Prize in 2001, the Koch Prize in 2002, the Brupbacher Foundation Cancer Research Prize in 2003, the Max Delbrück Medal in 2006, the Vilcek Prize in 2007, and the Massry Prize in 2008. He is also a Member of the National Academy of Sciences, a Fellow of the American Academy of Arts and Sciences, a Member of the Institute of Medicine, a Member of the German Academy of Natural Sciences Leopoldina, and an Associate Member of the European Molecular Biology Organization.

Professor Jaenisch’s passion and commitment to his work extends beyond his lab. He has taken a leadership position in the controversies and debates surrounding cloning, and helped to educate the public on the important distinctions between therapeutic cloning, which involves the use of stem cells for curing disease, and reproductive cloning. He has participated in numerous panel discussions, held interviews with the media, and testified before Congress to help provide a scientific and ethical basis for government decision-making on cloning.

At MIT, Professor Jaenisch is a committed citizen, a popular teacher of both undergraduates and graduates, and a caring mentor. His students and colleagues are inspired by his creative ideas and thinking, and grateful for his wisdom and advice. As a founding member of the Whitehead Institute at MIT, he played a key role in shaping the Whitehead into the world-renowned biomedical research center it is today.

Professor Jaenisch's contributions to science and society are a source of great pride for MIT. He is eminently worthy of the Institute's highest faculty achievement award, the 2009-2010 James R. Killian, Jr. Faculty Achievement Award.