



## **About Whitehead Institute for Biomedical Research**

### **FOUNDING VISION**

Whitehead Institute is a nonprofit, independent biomedical research institute with pioneering programs in cancer research, developmental biology, genetics, and genomics. It was founded in 1982 through the generosity of Edwin C. "Jack" Whitehead, a businessman and philanthropist who sought to create a new type of research institution, one that would exist outside the boundaries of a traditional academic institution, and yet, through a teaching affiliation with the Massachusetts Institute of Technology (MIT), offer all the intellectual, collegial, and scientific benefits of a leading research university.

### **WHITEHEAD INSTITUTE TODAY**

True to its founding vision, the Institute gives outstanding investigators broad freedom to pursue new ideas, encourages novel collaborations among investigators, and accelerates the path of scientific discovery. Research at Whitehead Institute is conducted by 21 principal investigators (Members and Fellows) and approximately 300 visiting scientists, postdoctoral fellows, graduate students, and undergraduate students from around the world. Whitehead Institute is affiliated with MIT in its teaching activities but wholly responsible for its own research programs, governance, and finance.

### **LEADERSHIP**

Whitehead Institute is guided by a distinguished Board of Directors, chaired by Charles D. Ellis, and by a Board of Advisory Scientists, composed of some of the world's most eminent biologists. In December 2005, Whitehead Member David Page was named Director of Whitehead Institute.

### **FACULTY**

Whitehead Institute has a world-renowned faculty consisting of 16 Members and one Affiliate Member. The faculty include the recipient of the 2011 National Medal of Science (Rudolf Jaenisch); the recipient of the 1997 National Medal of Science (Robert A. Weinberg); eight Members of the National Academy of Sciences (David Bartel, Gerald R. Fink, Jaenisch, Harvey F. Lodish, David C. Page, David Sabatini, Weinberg, and Richard Young); four Members of the National Academy of Medicine (Fink, Jaenisch, Lodish, Page, and Weinberg); and four Howard Hughes Medical Institute investigators (Bartel, Page, Peter Reddien, and Sabatini). All Whitehead faculty are also members of the Biology Department or other departments at MIT.

### **LOCATION**

Whitehead Institute occupies 455 Main Street, a seven-story building with state-of-the-art facilities for biomedical research.

## **Selected Achievements in Biomedical Science**

Isolated the first tumor suppressor gene, the retinoblastoma gene, and created the first genetically defined human cancer cells. (Weinberg)

Isolated key genes involved in diabetes, hypertension, leukemia, and obesity. (Lodish)

Mapped and cloned the male-determining Y chromosome, revealing a unique self-repair mechanism. (Page)

Developed a method for genetically engineering salt- and drought-tolerant plants. (Fink)

Developed the first comprehensive cellular network describing how the yeast genome produces life. (Young)

Identified more than 50 genes in frogs involved in the formation of nerve tissue, paving the way for new strategies to repair damaged nerve cells in humans. (Sive)

Developed the first transgenic mouse model of a severe human genetic disease, as well as the first mouse clone carrying an inserted gene. (Jaenisch)

Found that microRNAs affect most human protein-coding genes. (Bartel)

#### **DIRECTOR AND MEMBER**

David C. Page

#### **FOUNDING FACULTY AND MEMBERS**

Gerald R. Fink  
Rudolf Jaenisch  
Harvey F. Lodish  
Robert A. Weinberg

#### **MEMBERS**

David Bartel  
Iain Cheeseman  
Mary Gehring  
Ankur Jain  
Pulin Li  
Sebastian Lourido

Peter Reddien  
David Sabatini  
Hazel L. Sive  
Jing-Ke Weng  
Richard A. Young

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David Gifford

## **WHITEHEAD INSTITUTE FELLOWS PROGRAM**

One of the unique features of Whitehead Institute is the Whitehead Fellows Program. Designed to nurture future leaders in science, this program provides exceptionally talented scientists with the rare opportunity to set up an independent research program as an alternative to a traditional postdoctoral position.

## **WHITEHEAD INSTITUTE POSTDOCTORAL PROGRAM**

Whitehead Institute prides itself on attracting bright, young researchers and providing an environment that nurtures them. Motivated postdoctoral scientists play an essential role in research at the Institute. They benefit from the expertise of world-renowned faculty members and other postdocs and graduate students, with whom they often collaborate. The Whitehead Institute Postdoctoral Association consists of postdoctoral scholars and members of the administration and faculty who have a special interest in issues that are important to Whitehead Institute postdocs. The organization is currently focusing on career development, mentoring, communications, and social events. Past achievements include the establishment of higher salary levels and equalized benefits for postdoctoral associates and fellows, and the implementation of child care benefits for Whitehead Institute employees.

## **GENOME RESEARCH**

Whitehead Institute was an international leader in the Human Genome Project, the effort that identified the complete sequence of our DNA. With its Center for Genome Research as the core facility, Whitehead Institute helped launch the Broad Institute of MIT and Harvard, a unique collaboration between, MIT, and Harvard University, and their affiliated teaching hospitals.

## **TECHNOLOGY TRANSFER**

The Institute serves as a major resource for the pharmaceutical and biotechnology industry with over 100 licensing agreements on technologies, ranging from AIDS vaccine candidates to novel robotic technologies, that have led to exciting new products and jobs at major corporations and a variety of start-up companies.

## **PUBLIC PROGRAMS**

For more than 25 years, Whitehead Institute has given high school and middle school teachers and students firsthand exposure to state-of-the-art research by working directly with world-class scientists. Through monthly workshops for teachers, a spring lectures series for high school students, and two-week long summer science sessions for middle school students, our public programs enhance the teaching of science, spark a lifelong appreciation for scientific research, and cultivate the nation's next generation of scientists.

## **Philanthropy at Whitehead Institute**

Whitehead Institute relies on philanthropy to maintain its pioneering programs in cancer research, developmental biology, stem cell research, regenerative medicine, genetics, genomics, and more. Gifts from individual donors, foundations, and corporations directly support Whitehead Institute scientists pursuing breakthroughs that are transforming our understanding of biology and accelerating the development of therapies for a host of human diseases. Whitehead Institute supporters enhance the Institute's ability to improve the health and welfare of all human beings through leading-edge research, education in the biomedical sciences, and extending the boundaries of knowledge for future generations.

### **WHITEHEAD INSTITUTE BOARD OF DIRECTORS**

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