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Siniša Hrvatin
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Zuri Sullivan
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Yukiko Yamashita
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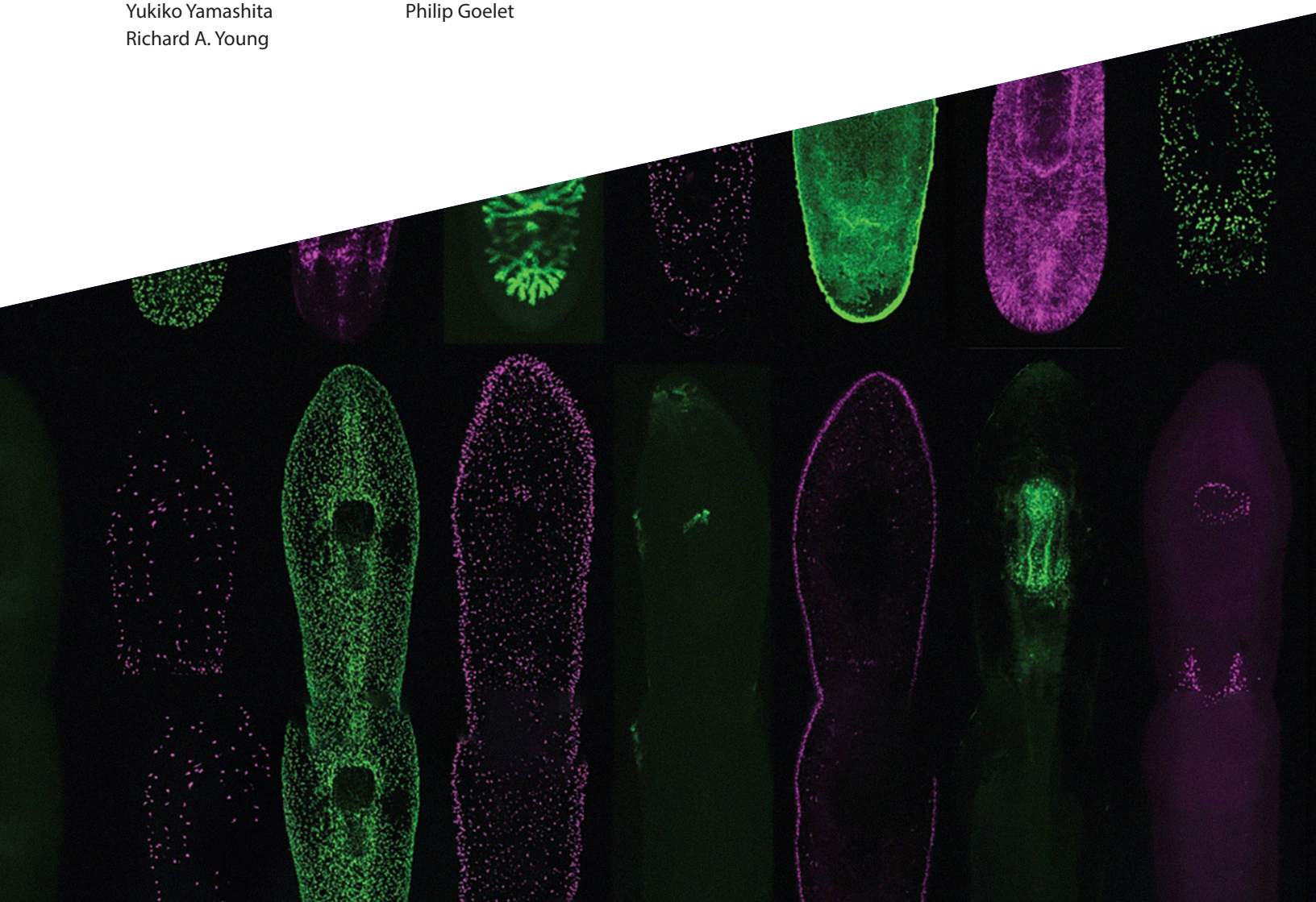


About Whitehead Institute for Biomedical Research

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 visionary industrialist 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 mission of Whitehead Institute is to be a trailblazer in science by first, investing in new biology enabling excellent, visionary science that enriches our understanding of life's principles and impacts global health. Second, to build a "One-Whitehead community" that nurtures a sense of community, collegiality and shared responsibility. And third, to build bridges to other research, health and civic communities that fosters innovative science through collaboration beyond traditional boundaries. Research at Whitehead Institute is conducted by 24 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 Sarah Keohane Williamson, and by a Board of Advisory Scientists, composed of some of the world's most eminent biologists. In July 2020, Ruth Lehmann was named Director of Whitehead Institute.

SELECTED ACHIEVEMENTS IN BIOMEDICAL SCIENCE

- Found that microRNAs affect most human protein-coding genes. (Bartel)
- Developed a new approach to studying genetic sequence variation. (Corradin)
- Defined extragenic factors that dramatically impact seed development. (Gehring)
- Developed the first transgenic mouse model of a severe human genetic disease, and the first mouse clone carrying an inserted gene. (Jaenisch)
- Discovered key conserved genes that specify germline fate and the link between RNA localization and spatially restricted protein synthesis. (Lehmann)
- Discovered how to model a process critical to understanding cell-cell communication important for tissue and body pattern formation. (Li)
- Mapped and cloned the male-determining Y chromosome, revealing a unique self-repair mechanism. (Page)
- Uncovered cell types critical for regeneration in flatworms. (Reddien)
- Isolated the first tumor suppressor gene, the retinoblastoma gene, and created the first genetically defined human cancer cells. (Weinberg)
- Discovered factors critical for asymmetric cell divisions and stem cell regeneration. (Yamashita)
- Developed the first comprehensive cellular network describing how the yeast genome produces life. (Young)

Whitehead Institute

Faculty

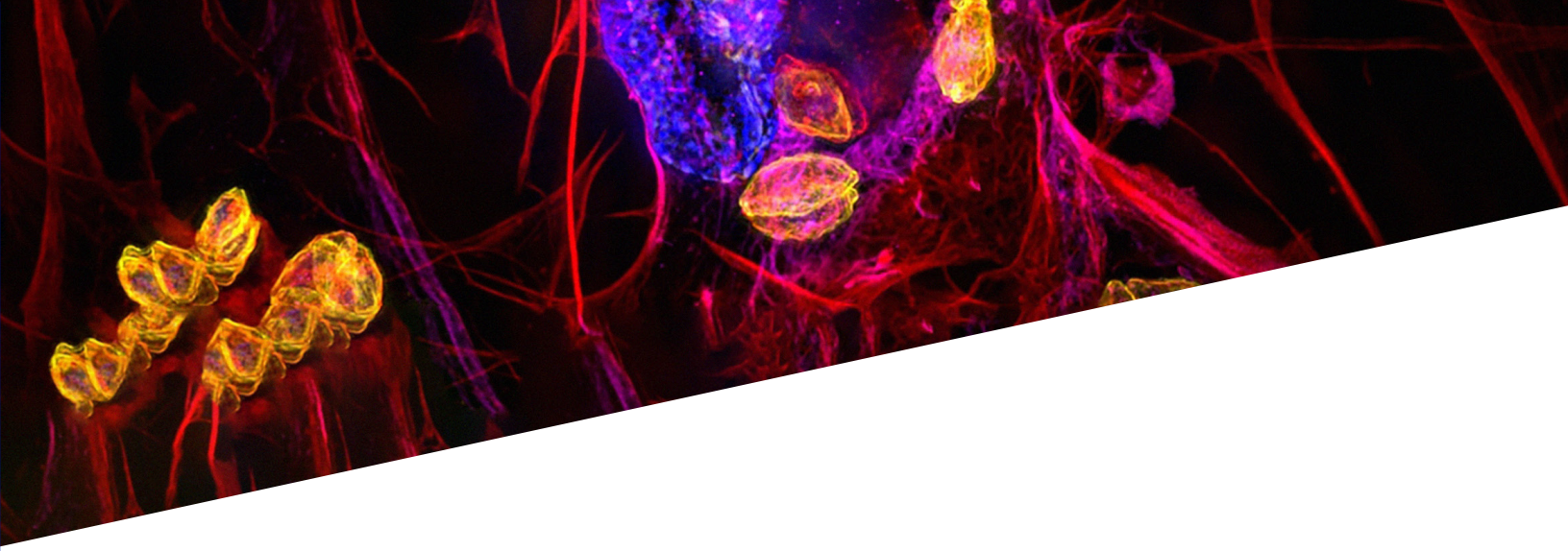
Whitehead Institute has a world-renowned faculty consisting of 20 Members. The faculty include the recipient of the 2011 National Medal of Science (Jaenisch); the recipient of the 1997 National Medal of Science (Weinberg); the recipient of the inaugural 2015 National Academy of Sciences Award for Scientific Discovery (Weissman); eleven members of the National Academy of Sciences (Bartel, Fink, Jaenisch, Lehmann, Lodish, Page, Vale, Weinberg, Weissman, Yamashita, Young); six members of the National Academy of Medicine (Fink, Jaenisch, Page, Vale, Weinberg, Young); eight members of the American Academy of Arts and Sciences (Fink, Jaenisch, Lehmann, Lodish, Page, Vale, Weinberg, Yamashita); two MacArthur Fellows award recipients (Page, Yamashita); three Gruber Genetics Prize winners (Fink, Jaenisch, Lehmann) and seven Howard Hughes Medical Institute investigators (Bartel, Gehring, Page, Reddien, Vale, Weissman, Yamashita). All Whitehead faculty are also members of the Biology Department or other departments at MIT.

Location

Whitehead Institute is located in Cambridge, Massachusetts, in the heart of Kendall Square, a robust center for life science innovation. The Institute is a seven-story building with state-of-the-art facilities for biomedical research.

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 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, 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.