



# Gerald Fink Retirement Symposium

Tuesday, May 13, 2025

## GERALD FINK RETIREMENT SYMPOSIUM

Tuesday, May 13, 2025

9:30 AM – 4:15 PM

*Community reception immediately to follow*

Whitehead Institute

455 Main Street, McGovern Auditorium

Cambridge, MA 02142

## IMPORTANT INFORMATION

### WiFi Access

Guests can connect to the **WIBR Guest** network using the password **yeastcell**.

### The Creation of the Whitehead Institute: A Radical Experiment

We're delighted to offer complimentary copies of Gerry's new book, *The Creation of the Whitehead Institute: A Radical Experiment*, as a memento of today's celebration. Pick up a copy in the Whitehead Café or under the tent outside the building.

### Welcome Back, Whitehead Alumni!

We're thrilled to reconnect and explore new ways to strengthen our alumni community, with your voice leading the way.



Scan the QR code to take a quick survey and share your ideas. It only takes a minute and will help us build the kind of alumni program you want to see.

## PROGRAM

8:30 AM Registration Check-in, Lobby  
Continental Breakfast, Whitehead Café

### SESSION I

**Chair: Fred M. Winston, Fink Lab 1980 – 1983**

9:30 AM Welcome  
*Ruth Lehmann*  
*Director and President, Whitehead Institute*

9:45 AM Molecular interactions between the sexes for optimal fertility (or, sometimes “his” doesn’t mean “histidine”)  
*Mariana Wolfner, Fink Lab 1972 – 1974*  
*Distinguished Professor of Molecular Biology and Genetics, Stephen H. Weiss Presidential Fellow, Cornell University*

10:00 AM Birth and rearing of the integrated stress response  
*Alan Hinnebusch, Fink Lab 1980 – 1983*  
*Distinguished Lecturer, National Institutes for Health*

10:15 AM A Trp from auxin to peroxisomes in Arabidopsis  
*Bonnie Bartel, Fink Lab 1991 – 1995*  
*Ralph and Dorothy Looney Professor of BioSciences, Rice University*

10:30 AM Using suppressors of insertion mutations to study eukaryotic transcription  
*Fred M. Winston, Fink Lab 1980 – 1983*  
*John Emory Andrus Professor of Genetics, Blavatnik Institute, Harvard Medical School*

10:45 AM Break  
Whitehead Café and Outdoor Plaza

### SESSION II

**Chair: Jef Boeke, Fink Lab 1982 – 1985**

11:15 AM Unexpected biology of a pathogenic budding yeast  
*Hiten Madhani, Fink Lab 1995 - 1998*  
*Professor, Department of Biochemistry and Biophysics, University of California, San Francisco*

11:30 AM

**Inspiration from molecular genetics**

*David Pellman, Fink Lab 1988 – 1992*

*Margaret M. Dyson Professor of Pediatric Oncology, Dana-Farber Cancer Institute; Professor of Cell Biology, Blavatnik Institute, Harvard Medical School; Howard Hughes Medical Institute Investigator*

11:45 AM

**Follow the science: From metabolism to an unexpected antifungal candidate**

*Mike C. Lorenz, Fink Lab 1998 – 2003*

*Herbert L. and Margaret W. DuPont Chair in Biomedical Science, McGovern Medical School, UT Health Houston*

12:00 PM

**Scents and sensibility: Uncovering the biological basis of inherited learned behaviors**

*Reeta Prusty Rao, Fink Lab 1999 – 2005*

*Professor & Department Head, Biology and Biotechnology, Worcester Polytechnic Institute*

12:15 PM

**Scaling up DNA engineering from Ty1 to genes, pathways and Genomes**

*Jef Boeke, Fink Lab 1982 – 1985*

*Sol and Judith Bergstein Director, Institute for Systems Genetics, Professor, Department of Biochemistry and Molecular Pharmacology, New York University Grossman School of Medicine*

12:30 PM

**Lunch**

**Whitehead Café and Outdoor Plaza**

**SESSION III**

**Chair: Mary Gehring**

**Member and David Baltimore Chair in Biomedical Research, Whitehead Institute; Professor of Biology, MIT; Howard Hughes Medical Institute Investigator**

1:30 PM

*Harold Varmus*

*Lewis Thomas University Professor, Weill Cornell Medicine*

1:45 PM

**Gerry at Cold Spring Harbor Laboratory**

*Bruce Stillman*

*President and CEO, Oliver R. Grace Professor and Cancer Center Member, Cold Spring Harbor Laboratory*

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- 2:00 PM      **Wisdom I learned from Gerry Fink**  
*Terry Orr-Weaver*  
*Professor Emerita, MIT; Alumna, Whitehead Institute*
- 2:15 PM      *Michael Rosbash*  
*Peter Gruber Endowed Chair in Neuroscience, Professor of Biology and Investigator, Brandeis University; Howard Hughes Medical Institute Investigator*
- 2:30 PM      **Break**
- SESSION IV**  
**Chair: Peter W. Reddien, Member, Whitehead Institute; Professor of Biology, MIT; Howard Hughes Medical Institute Investigator**
- 3:00 PM      *Susan E. Whitehead*  
*Founding Lifetime Trustee, Whitehead Institute; Life Member, MIT Corporation*
- 3:15 PM      **Gerry and the Genome**  
*Eric S. Lander*  
*Founding Director and Core Institute Member, Broad Institute*
- 3:30 PM      *Randy Schekman*  
*Professor of Cell Biology, University of California Berkeley; Howard Hughes Medical Institute Investigator*
- 3:45 PM      *Gerald R. Fink*  
*Founding Member, Whitehead Institute; Professor of Genetics, MIT; Professor, American Cancer Society*
- 4:00 PM      **Closing Remarks**  
*Sarah Williamson*  
*Chair, Whitehead Institute Board of Directors*
- 4:15 PM      **Reception**  
**Whitehead Café and Outdoor Plaza**

## SESSION I



### **Fred Winston, Fink Lab 1980 – 1983**

*John Emory Andrus Professor of  
Genetics, Blavatnik Institute,  
Harvard Medical School*

Fred Winston is the John Emory Andrus Professor of Genetics at Harvard Medical School. Fred's lab is best known for studies of transcription and chromatin structure in yeast. His lab has discovered several factors that are conserved from yeast to humans that play central roles in gene expression. Fred was born in Cleveland, Ohio. He received his BA from the University of Chicago and his PhD from MIT, doing his thesis research in the lab of David Botstein. He did his postdoctoral work in the lab of Gerry Fink before moving to his faculty position at Harvard in 1983. Fred has been president of the Genetics Society of America and he is a member of the National Academy of Sciences as well as the American Academy of Arts and Sciences.



**Ruth Lehmann**

*Director and President*

Lehmann earned her undergraduate degree and a PhD in biology with Christiane Nüsslein-Volhard from the University of Tübingen, in her home country of Germany. She has conducted research at the University of Washington, the University of Freiburg, the Max Planck Institute for Developmental Biology and the Medical Research Council Laboratory of Molecular Biology in Cambridge, England. She was a Member of the Whitehead Institute Member and on the faculty of MIT from 1988-1996. She then moved to New York University (NYU), where she served in a number of leadership roles specifically as the Laura and Isaac Perlmutter Professor of Cell Biology and Director of the Skirball Institute of Biomolecular Medicine (2006-2020) and from 2014-2020 as the Chair of the Department of Cell Biology at NYU's Grossman School of Medicine. She also became an Investigator with the Howard Hughes Medical Institute in 1990 and again in 1997. In 2020, Lehmann took on the role of president and director of the Whitehead Institute. She has received national and international recognition including election to the National Academy of Sciences as Foreign Associate in 2005, election as Associate Member of the European Molecular Biology Organization in 2012, and election as a Foreign Member of the Royal Society in 2024, and was awarded the Vilcek Prize in Biomedical Science in 2021. She served as president of the American Society for Cell Biology in 2021 and is currently editor-in-chief of the Annual Review of Cell and Developmental Biology.



**Mariana Wolfner, Fink Lab 1972 – 1974**

*Distinguished Professor of Molecular Biology and Genetics, Stephen H. Weiss Presidential Fellow, Cornell University*

Mariana Federica Wolfner is the Goldwin Smith Professor of Molecular Biology and Genetics, and a Stephen H. Weiss Fellow. Her research focuses on understanding, at the molecular/gene level, the important reproductive processes that occur around the time when a sperm fertilizes an egg. Using the *Drosophila* model, the Wolfner laboratory studies the molecular signals that “activate” an oocyte to begin embryo development and also studies how seminal proteins modulate the reproductive physiology and behavior of female insects. Mariana’s primary teaching areas are in Development & Evolution, and Developmental Genetics. Mariana has a BA in Biology and Chemistry from Cornell, a PhD in Biochemistry from Stanford, and she did postdoctoral work at UC San Diego. She is a Fellow of the American Association for the Advancement of Science, and has received awards and recognition for her research, teaching and advising. She serves on several editorial and biology-organizations’ boards, and on study sections. She is also a Hunter Rawlings Faculty Fellow at Cornell’s Alice Cook House.



**Alan Hinnebusch, Fink Lab 1980 – 1983**

*Distinguished Investigator, NIH*

Alan G. Hinnebusch received his BS in Biology from the University of Dayton, Ohio, in 1975 and his PhD in Biochemistry and Molecular Biology from Harvard University in 1980. He studied as a postdoctoral fellow in the laboratory of Dr. Gerald R. Fink at Cornell University and the Massachusetts Institute of Technology from 1980 to 1983. He joined the NICHD as a senior staff fellow in 1983 and became chief of the Laboratory of Eukaryotic Gene Regulation in 1995. In 2000, he was appointed as chief of the Laboratory of Gene Regulation and Development and head of the Section on Nutrient Control of Gene Regulation. In 2007, he was named head of the Program in Cellular Regulation and Metabolism. Dr. Hinnebusch has served on the editorial boards of Genetics, Microbiological Reviews, Molecular Microbiology, Journal of Biological Chemistry, and Molecular & Cellular Biology, and is currently a member of the editorial boards of Genes & Development, eLife, and Genetics. He was co-organizer of the Cold Spring Harbor Laboratory Meeting on Translational Control from 2000 to 2010. He has published more than 220 original research articles in peer-reviewed journals and more than 50 review articles and book chapters pertaining to his field of research. In 1994 he was named Maryland's Outstanding Young Scientist and was elected as a fellow of the American Academy of Microbiology. In 2009 he was elected as a fellow of the American Association for the Advancement of Science and as a fellow of the American Academy of Arts and Sciences, and in 2015 he was elected to the National Academy of Sciences.



**Bonnie Bartel, Fink Lab 1991 – 1995**

*Ralph and Dorothy Looney Professor  
of BioSciences, Rice University*

Bonnie Bartel is the Ralph and Dorothy Looney Professor of Biochemistry and Cell Biology at Rice University. Bartel uses the reference plant *Arabidopsis thaliana* to study the biosynthesis and regulation of the plant hormone auxin, which plays critical roles in regulating cell expansion, division, and differentiation in response to developmental and environmental cues. Bartel has identified genes providing inputs to the auxin pool, distinguished precursors from active auxin, elucidated the contributions of different auxin biosynthetic pathways to development, identified enzymes catalyzing the synthesis of auxin from precursors, discovered compartmentalization of auxin production, and revealed the developmental importance of different auxin sources. Bartel's discovery of a peroxisome-housed auxin biosynthetic pathway led her to investigate the biogenesis, function, and dynamics of this vital organelle, which serves to compartmentalize certain metabolic reactions and protects the cytosol from oxidative damage. Using peroxisome-defective mutants, she has revealed conserved import factors, unanticipated interdependencies among biogenesis components, and a novel pathway degrading peroxisomal proteins during organelle remodeling. In addition, Bartel co-discovered plant microRNAs, which were originally identified in nematodes. She deciphered functions of several microRNA-mRNA target pairs by developing the dual approach of overexpressing microRNAs to reveal loss-of-target-gene phenotypes and expressing microRNA-resistant targets from native promoters to uncover loss-of-microRNA regulation phenotypes.

Bartel's ongoing research is focused on plant peroxisome dynamics — how these organelles are synthesized, maintained, and turned over to support various plant processes. In addition to her research roles, Dr. Bartel is involved as a Howard Hughes Medical Institute Professor in developing programs to involve undergraduate students in research and support their exploration of career options in the sciences.

Dr. Bartel received her BA from Bethel College, her PhD from the Massachusetts Institute of Technology, and her post-doctoral training at the Whitehead Institute. She has received numerous awards for her research and mentoring, including: member of the National Academy of Sciences (2016), Fellow of the American Society of Plant Biologists (2011), the Rice University Presidential Mentoring Award (2011), fellow of the American Association for the Advancement of Science (2007), the Rice University Charles Duncan Award for Outstanding Academic Achievement (2005), and the Bethel College Young Alumni Award (2001). Her publications have appeared in various journals including *Cell*, *Nature Chemical Biology*, *Plant Cell*, and *Plant Physiology*.

## SESSION II



### **Jef D. Boeke**

*Sol and Judith Bergstein Director,  
Institute for Systems Genetics,  
Professor, Department of Biochemistry  
and Molecular Pharmacology, New York  
University Grossman School of Medicine*

Jef Boeke is the founding director of The Institute for Systems Genetics at NYU Langone Health and is known for foundational work on mechanistic and genomic aspects of retrotransposition. He is a pioneer of synthetic genome construction, as he synthesized the first artificial yeast chromosomes *de novo*. He also leads an international consortium that built the highly engineered genome of the first synthetic eukaryote, Yeast 2.0. Using Big DNA technology to build mammalian gene loci in yeast and then delivering those loci and their variants to stem cells, Boeke and his team are working to understand the “instruction manuals” that specify how human genes are expressed in the context of the Dark Matter Project. This research has informed technology that enables the rapid design and development of humanized mouse models for studying the treatment of diseases. Boeke has founded several biotechnology companies, including Avigen Inc., CDI Labs, and Neochromosome, Inc. His lab developed a highly automated RT-PCR workflow and software infrastructure that was central to a COVID-19 testing pipeline deployed by another company he helped found, the Pandemic Response Lab. His academic training was at Bowdoin College (AB in Biochemistry 1977) and Rockefeller University (PhD in Molecular Biology 1982), and he performed postdoctoral work with Gerald Fink at the Whitehead Institute (1982 – 1985).

**Hiten Madhani, Fink Lab 1995 – 1998**

*Professor and Vice Chair, Department of Biochemistry and Biophysics, University of California, San Francisco*

Hiten was born in London, England. The family moved to Nairobi, Kenya (where his mother was born and raised) when he was only a few months old, where his younger brother was born several years later. Political violence caused the family to flee to the USA when Hiten was 5 years old. He attended kindergarten and the first grade in Pittsburgh. The family then moved to the Seattle area. He graduated from Bellevue High School, where he was on the varsity tennis team and the debate team. Hiten received his BS and MS in Biological Sciences from Stanford, where he started out interested in math and physics, migrated to organic chemistry, and eventually landed in biology. There, he was introduced to bench science in the laboratory of Phillip Hanawalt, a pioneer of DNA repair. Hooked on bench science by this experience, he continued his education at UCSF, where he was an MD-PhD student. During his first two years of medical school, he was in the lab of Harold Varmus, working on retroviral ribosomal frameshifting, which sparked an interest in RNA. Hiten performed his PhD in the lab of Christine Guthrie (Dept. of Biochemistry and Biophysics, UCSF), focusing on the role of snRNAs in splicing. After finishing medical school, Hiten decided to not pursue further medical training and instead to continue to do research. He did postdoctoral work as a Helen Hay Whitney Fellow in the lab of Gerry Fink at Whitehead Institute/MIT, investigating mechanisms of MAP kinase signaling specificity. He returned to UCSF as an assistant professor in the Department of Biochemistry and Biophysics, where he currently serves as Professor and Vice-Chair. He published a book on cell type in 2008, entitled *From a to alpha* published by Cold Spring Harbor Press. He was awarded the UCSF Outstanding Mentor Award in 2015 and was elected a Fellow of the American Association for the Advancement of Science (AAAS) in 2020. He serves on the MSTP (MD-PhD program) Council (admissions and advisory committee) and the Executive Committee for the Tetrad Graduate Program. Hiten loves talking science with people in the lab and colleagues. In his free time, Hiten likes to explore the restaurant scene in San Francisco, cycling, hiking, and spending time with his family.



**David Pellman, Fink Lab 1988 - 1992**

*Margaret M. Dyson Professor of Pediatric Oncology, Dana-Farber Cancer Institute; Professor of Cell Biology, Blavatnik Institute, Harvard Medical School; Investigator, Howard Hughes Medical Institute*

David Pellman, MD is the Margaret M. Dyson Professor of Pediatric Oncology at the Dana-Farber Cancer Institute, a professor of cell biology at Harvard Medical School, an Investigator of the Howard Hughes Medical Institute, and the associate director for basic science at the Dana-Farber/Harvard Cancer Center. He received his undergraduate and medical degrees from the University of Chicago. During medical school, he did research at the Rockefeller University. His postdoctoral fellowship was at the Whitehead Institute/MIT. The Pellman Lab works on the mechanism of cell division and how certain cell division errors drive rapid genome evolution. The normal processes studied in the laboratory have included spindle positioning and asymmetric cell division, the mechanism of spindle assembly and cytokinesis, and the mechanism of nuclear envelope assembly and how it is coordinated with chromosome segregation. The mutational processes studied in David's group are particularly important for cancer, but have relevance for genome evolution in other contexts. Current projects include: the mechanism of a newly discovered mutational process called "chromothripsis", how the architecture and integrity of the nuclear envelope impacts genome maintenance, and the role of cytoplasmic chromatin in triggering innate immune proinflammatory signaling. The lab uses a variety of approaches which include, molecular genetics, biochemistry, and imaging. Currently there is a heavy emphasis on using a combination of live-cell imaging and single-cell genome sequencing developed in the lab ("Look-Seq") to relate the consequences of cell division errors to genome alterations.



**Mike C. Lorenz, Fink Lab 1998 – 2003**

*Herbert L. and Margaret W. DuPont Chair  
in Biomedical Science, McGovern Medical  
School, UT Health Houston*

Dr. Lorenz joined the faculty of the Department of Microbiology and Molecular Genetics at McGovern Medical School in 2003 as an assistant professor. In 2023 he was named chair of MMG and is proud to be part of this dynamic community dedicated to student training and research excellence. A native of Atlanta, Dr. Lorenz began his research career in infectious disease studying malaria and HIV at the Centers for Disease Control and Prevention. He earned a BA in Biochemistry and Cell Biology at Rice University, where he studied enzyme kinetics with Dr. Fred Rudolph. Subsequently he was a PhD student in the Department of Genetics at Duke University Medical School, unraveling signaling pathways that regulate cellular differentiation in the model yeast *Saccharomyces cerevisiae* with Dr. Joseph Heitman. Dr. Lorenz returned to infectious disease research as a post-doctoral fellow at the Whitehead Institute for Biomedical Research in Cambridge, MA, under the guidance of Dr. Gerald Fink. It was here that he began his investigations into the mechanisms of pathogenesis in *Candida* species, one of the most common and deadly fungal causes of invasive disease. In addition to his current role as chair of MMG, Dr. Lorenz has served as president of the Medical Mycological Society of the Americas, chair of Division F (Fungi) of the American Society for Microbiology, and a member of the ASM's Council on Microbial Sciences. He has served on numerous grant review panels for the National Institutes of Health and other national and international funding bodies and as an editor for several journals. He is an elected fellow of the American Academy of Microbiology and the American Association for the Advancement of Science.



**Reeta Prusty Rao, Fink Lab 1999-2005**

*Professor & Department Head,  
Biology and Biotechnology,  
Worcester Polytechnic Institute*

Professor Reeta Rao is a leader in the field of molecular genetics and genomics and has affiliate appointments at the Broad Institute of MIT and Harvard (Cambridge) as well as the Institute of Drug Resistance at the UMass Chan Medical School (Worcester). Her primary research activities are focused on emerging infectious diseases, specifically understanding and managing fungal diseases. Students and research associates in her laboratory are trained to use a variety of high biochemical, molecular-genetic, and genomic tools to study host-microbe interactions to explore fungal virulence strategies and identify novel therapeutics in a high throughput fashion. She is deeply engaged in the Global Health and Pre-Health programs at WPI.

In addition, Reeta is committed to the career and professional development of scientists at all levels of training. To keep researchers engaged in science, she has spearheaded several workforce development opportunities aimed at recruiting, retaining, and improving the critical skills, knowledge, and resources required for academia as well as industry. At the Masters' level, she has championed a skill-based MS degree program designed to provide advanced coursework and laboratory techniques applicable to the biotechnology industry. This program was recently recognized among the top two online degree programs in the country. She served as the inaugural associate dean of graduate studies.

Reeta is a fellow of the American Academy of Microbiology (AAM fellow) and American Association for the Advancement of Science (AAAS fellow). She is a recipient of the Waksman outstanding teacher award from the Society of Industrial Microbiology and Biotechnology. She is a member of several professional societies including Medical Mycology Society of the Americas, The Indus Entrepreneurs, International society for human and animal mycology, National Association of Inventors, Genetic Society of America as well as the Society for Industrial Microbiology and Biotechnology and serves as an academic editor for the PLOS journals.

## SESSION III



### **Mary Gehring**

*Member and David Baltimore Chair in Biomedical Research, Whitehead Institute; Professor of Biology, MIT; Investigator, Howard Hughes Medical Institute*

Gehring began her scientific career at Williams College, earned her doctorate from University of California, Berkeley in 2005, and continued her studies as a postdoctoral researcher with Steven Henikoff at the Fred Hutchinson Cancer Research Center. Gehring came to Whitehead Institute in 2010 and was named the Thomas D. and Virginia W. Cabot Career Development Professor by MIT in 2011. In 2020 she was named the Landon T. Clay Career Development Chair at Whitehead Institute. In 2023, Gehring was named the Inaugural David Baltimore Chair in Biomedical Research. In 2024, she was selected as an Investigator of the Howard Hughes Medical Institute.



### **Harold Varmus**

*Lewis Thomas University Professor,  
Weill Cornell Medicine*

Initially a student of English literature and then trained as a physician, Harold Varmus began his scientific career as a member of the Public Health Service at the National Institutes of Health in the late 1960s, working on gene regulation in bacteria with Ira Pastan. Then, during twenty-three years at the University of California Medical School in San Francisco, working in extensive partnership with J. Michael Bishop, Varmus and their trainees studied many aspects of the biology of retroviruses, including the mechanism of viral DNA synthesis and integration, gene expression, viral entry, and oncogenesis in vivo and in vitro. The cancer-causing potential of retroviruses led to the identification of the first and several other cellular proto-oncogenes, both by tracing viral oncogenes to their cellular progenitors and by identifying cellular genes transcriptionally activated by proviral insertion mutations. These genes and others encoding members of cell signaling pathways have often been found mutated in human tumors and are now targets for novel and effective therapies. For the early phases of this work, Varmus and Bishop shared a Nobel Prize for Physiology or Medicine in 1989. Varmus has also worked in significant leadership positions: as director of the NIH from 1993 to 1999, as president of Memorial Sloan Kettering Cancer Center from 2000 to 2010, and as director of the National Cancer Institute from 2010 until April 2015, when he became the Lewis Thomas University Professor at Weill Cornell Medicine. He is also a senior associate member of the New York Genome Center and teaches a course in “Science and Society” at the CUNY Honors College. In addition to his research and teaching responsibilities, Varmus takes an active interest in the state of the biomedical enterprise, serving as a consultant to academic institutions, foundations, and companies; developing new means to share scientific findings through enhanced publication processes, including public digital libraries, open access journals, and pre-print servers; and working with several colleagues on projects to repair lesions in the research enterprise (see [www.restoringbiomedicalresearch.org](http://www.restoringbiomedicalresearch.org)). In addition to his papers and scientific books, most of which are fully accessible through PubMed Central, he has written a memoir, *The Art and Politics of Science* (WW Norton, 2009), which can also be obtained free of charge at PubMed Central.

**Bruce Stillman**

*President and CEO, Oliver R. Grace Professor  
and Cancer Center Member, Cold Spring  
Harbor Laboratory*

Dr. Bruce Stillman is President and Chief Executive Officer of Cold Spring Harbor Laboratory. A native of Australia, he obtained a Bachelor of Science degree with honors at The University of Sydney and a PhD from the John Curtin School of Medical Research at the Australian National University. He then moved to Cold Spring Harbor Laboratory as a postdoctoral fellow in 1979 and has been at the Laboratory ever since, being promoted to the scientific staff in 1981. Dr. Stillman was director of the Cancer Center at Cold Spring Harbor from 1992 to 2016. In 1994, he succeeded Nobel Laureate Dr. James D. Watson as director of Cold Spring Harbor Laboratory and was appointed president in 2003.



**Terry Orr-Weaver**

*Professor Emerita, Massachusetts  
Institute of Technology; Alumna,  
Whitehead Institute*

Terry L. Orr-Weaver is professor emerita in the Dept. of Biology at MIT and alumna of the Whitehead Institute, which she initially joined in 1987. She obtained her PhD in the laboratory of Dr. Jack Szostak at Harvard University in 1984 and did postdoctoral training in Dr. Allan Spradling's laboratory at the Carnegie Institution of Washington. Dr. Orr-Weaver has been committed to training and mentoring young research scientists throughout her career. In her laboratory she trained 24 PhD students and 26 postdoctoral fellows, in addition to many undergraduate students. She co-headed the PhD program in biology at MIT for four years and directed the Whitehead Fellows program for nine years. In her leadership roles she served as president of the Genetics Society of America and of the National Drosophila Board of Directors. She was the chair of the Scientific Advisory Committee of Children's Hospital in Boston and the Damon Runyon Cancer Research Foundation Scientific Advisory Committee. In addition to membership in the NAS, she is an elected fellow of the American Academy of Microbiology and of the American Association for the Advancement of Science. She received the FASEB Excellence in Science award in 2013.

**Michael Rosbash**

*Peter Gruber Endowed Chair in Neuroscience,  
Professor of Biology and Investigator,  
Brandeis University; Investigator, Howard  
Hughes Medical Institute*

Michael Rosbash is a professor of biology and the Peter Gruber Professor of Neuroscience at Brandeis University. He is also an Investigator of the Howard Hughes Medical Institute. Rosbash went to the Newton public schools in greater Boston and then to Caltech, graduating in 1965 with a BS in Chemistry. He spent the 1965-1966 academic year in Paris as a Fulbright Scholar in the lab of Marianne Grunberg-Monago and then entered the PhD program at MIT in the fall of 1966. Rosbash worked there in the lab of Sheldon Penman and received a PhD in Biophysics in 1970. After a brief stint at the University of St. Andrews, he was a post-doc in the lab of John Bishop in the Department of Genetics at the University of Edinburgh from 1971-1974. Rosbash joined the faculty of Brandeis University in 1974 and was promoted to professor of biology in 1986. He became a Howard Hughes Medical Institute Investigator in 1989.

Rosbash has made fundamental contributions to our understanding of the post-transcriptional regulation of gene expression, especially RNA metabolism in yeast. He is best known however for his work in *Drosophila* that illuminated our current understanding of the molecular mechanisms that underlie circadian rhythms, the intrinsic clock that controls the cyclic behaviors of all animals. These same molecules, molecular machines and biological principles not only control *Drosophila* circadian clocks, but also the ubiquitous process of circadian rhythmicity throughout the animal kingdom. This circadian clock also controls much of cell physiology and metabolism, again in all animals — from humans to *Drosophila* (fruit flies).

Rosbash and his Brandeis colleague Jeff Hall as well as Mike Young of the Rockefeller University have received numerous awards for their circadian work, including the 2017 Nobel Prize in Physiology or Medicine. They previously received the Shaw Prize in Life Science and Medicine (2013), the Wiley Prize in Biomedical Sciences (2013), the Massry Prize (2012), the Canada Gairdner International Award (2012), the Louisa Gross Horwitz Prize for Outstanding Basic Research (2011), and the Peter and Patricia Gruber Foundation Neuroscience Prize (2009). Rosbash also received the Caltech Distinguished Alumni Award (2001), and he is a member of the National Academy of Sciences, a fellow of the American Association for the Advancement of Science and a fellow of the American Academy of Arts and Sciences.

## SESSION IV



**Peter W. Reddien**

*Member, Whitehead Institute; Professor of Biology, MIT; Howard Hughes Medical Institute Investigator*

Reddien became a Whitehead Member and joined the MIT faculty in 2005. He is now Professor of Biology and Associate Head of the MIT Department of Biology. He completed his undergraduate studies in molecular biology at the University of Texas at Austin, then obtained his PhD in biology from MIT in Robert Horvitz's lab, followed by postdoctoral work with Alejandro Sanchez Alvarado (now at the Stowers Institute).



**Susan E. Whitehead**

*Founding Lifetime Trustee, Whitehead Institute; Life Member, MIT Corporation*

Whitehead represents the second generation of a renowned philanthropic family: Susan Whitehead's father, visionary industrialist and philanthropist Edwin C. "Jack" Whitehead, founded the Institute. She is a lifetime trustee of MIT and currently serves on the boards of the Museum of Science in Boston, The Museum of Art and Photography Foundation, and is the current board chair of the Berklee College of Music. She is a former board chair of Horizons for Homeless Children, the Planned Parenthood League of Massachusetts, Research Institute for Learning and Development, and Bayview Correctional Facility in New York. She has served as a trial attorney in private practice in Boston and an assistant district attorney in New York City; directed a clinical program at Brooklyn Law School and worked for the ACLU in Jackson, Mississippi; and developed a comprehensive education program for the Brooklyn Botanic Garden. A life board member of the Institute since its founding, she currently serves on its Development and Nominating Committees.

**Eric Lander**

*Founding Director and Core Institute  
Member, Broad Institute*

Eric Lander is founding director and a core institute member of the Broad Institute of MIT and Harvard. A geneticist, molecular biologist, and mathematician, he has played a pioneering role in all aspects of the reading, understanding, and biomedical application of the human genome. He was a principal leader of the international Human Genome Project. As founding director, Lander plays a leading role in shaping the conception, development, distillation, and execution of Broad's scientific directions to drive the Broad community's shared impact. He also serves as a key mentor and strategist to Broad's scientific community and administrative leadership, especially around issues of major strategic and scientific importance. A widely-recognized scientific visionary, Lander has developed powerful methods for discovering the molecular basis of human diseases. From 2009 to 2017, he served as co-chair of the President's Council of Advisors on Science and Technology for President Barack Obama. From 2021 to 2022, he took a leave of absence to serve as President Biden's Science Advisor and a member of his cabinet, as well as Director of the White House Office of Science and Technology Policy. In 2022, Lander launched Science for America, a solutions incubator focused on addressing urgent challenges including the climate and energy crisis, medicine and public health, and STEM equity and education.

**Randy Schekman**

*Professor of Cell Biology, University of California, Berkeley; Investigator, Howard Hughes Medical Institute*

Randy Schekman is a professor in the Department of Molecular and Cell Biology, University of California, Berkeley, and an Investigator of the Howard Hughes Medical Institute (HHMI). He studied the enzymology of DNA replication as a graduate student with Arthur Kornberg at Stanford University. His current interest in cellular membranes developed during a postdoctoral period with S. J. Singer at the University of California, San Diego. Schekman's laboratory investigates the mechanism of membrane protein traffic in the secretory pathway in eukaryotic cells. In recent years his lab has turned to aspects of vesicular traffic in human cells, most recently on the biogenesis and sorting of small RNAs into extracellular vesicles.

Among his awards are the Gairdner International Award, the Albert Lasker Award in Basic Medical Research and the Nobel Prize in Physiology or Medicine, which he shared with James Rothman and Thomas Südhof. From 2006 – 2011 he served as editor-in-chief of the Proceedings of the National Academy of Sciences. In 2011, he founded and until 2019 served as the editor-in-chief of the Open Access journal, eLife, sponsored by the HHMI, Wellcome Trust and the Max Planck Society. Beginning in 2018, Schekman assumed a leadership role in an effort supported by the Sergey Brin Family Foundation to identify and support basic research on the mechanisms of Parkinson's Disease initiation and progression.



**Sarah Williamson**  
*Chair, Board of Directors,  
Whitehead Institute*

Williamson is CEO of FCLTGlobal, a not-for-profit working to increase innovation, economic growth, and savings by encouraging long-term behaviors in business and investing. She possesses three decades' experience in leadership and management, and has built extensive working relationships with business leaders around the globe. Prior to joining FCLTGlobal, Williamson spent more than 20 years at Wellington Management Company, where she served as a partner, director of alternative investments, and chair of the Wellington Trust Company. Previously, she held roles with McKinsey & Company Inc., the United States Department of State, and Goldman, Sachs & Co. A member of the board of Evercore—which provides global advisory, institutional equities, and investment management services—Williamson earned her MBA, with distinction, from Harvard Business School and her bachelor's in economics, with honors, from Williams College. She joined the Whitehead Institute board's investment committee in 2015, and became a board member in 2018 and board chair in 2020. She currently serves on the Institute's Finance Committee, Leadership Advisory Committee, and chairs its Investment Committee.