

**James R. Killian Jr. Faculty Achievement Award  
Citation for Penny Chisholm**

*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 upon 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 Killian Award Committee is pleased to honor Sallie W. (Penny) Chisholm, the Lee and Geraldine Martin Professor of Environmental Studies in the Department of Civil and Environmental Engineering, as the recipient of MIT’s 2014-15 James R. Killian Jr. Faculty Achievement Award.

Professor Chisholm has been described as both a groundbreaking scientist and a trail-blazing colleague. In 1988, she led a team that made a critical discovery about photosynthetic organisms in the sea. For many years, oceanographers had studied the seas as a key source of photosynthesis, the process of converting sunlight into energy that sustains life on Earth, but were not aware of the existence of a microscopic marine bacterium called *Prochlorococcus*. Thanks to Professor Chisholm’s work, this tiny bacterium has been revealed as one of the most abundant photosynthetic organisms on Earth, responsible for at least half of all atmospheric oxygen. This discovery—a microorganism with global impact—is symbolic of Professor Chisholm’s career. As one faculty colleague has observed, “[h]er work is a defining example of the value of thinking both big and small to make sense of the complex interplay of life and the environment.”

Over the years, Professor Chisholm’s impact has been felt from marine ecology to environmental science more broadly. In the spirit of the Killian Award, she has been a leader in connecting environmental scholarship with practical challenges. As one example, she has co-authored three children’s books that explain ecological principles.

Having received a BA from Skidmore College and a PhD in Biology from SUNY Albany, Professor Chisholm made her way to MIT in 1976, when she accepted an appointment as assistant professor in what is now the Department of Civil and Environmental Engineering (CEE). A biologist joining a civil engineering department has had lasting impact on the composition and perspective of CEE. Professor Chisholm has also held a joint appointment with the Department of Biology since 1993.

At MIT, Professor Chisholm served as associate chair of the MIT Faculty from 1987-1989. She has maintained an active relationship with the Woods Hole program, and has been involved with the Council on the Environment, the Committee on Senior Women Faculty in the School of Science, and the President’s Task Force on Student Life and Learning. She was the founding director of the MIT Earth System Initiative (ESI) and has co-taught Introductory Biology for more than 20 years.

Outside MIT, her many awards include election to the American Academy of Arts and

Sciences, the National Academy of Sciences, and the American Association for the Advancement of Science. In 2010, she received the Alexander Agassi Medal, given by the National Academy of Science every three years for an original contribution in the science of oceanography. In 2013, she was presented with the National Medal of Science at the White House.

As environmental issues continue to gain momentum, we find it timely to recognize Professor Penny Chisholm with the 2014-15 Killian Award for her scientific achievements, interdisciplinary leadership, and inspirational vision.

Patrick Jaillet,  
Chair  
Killian Award Committee