The silencing phenomenon RNA interference (RNAi) was discovered by accident through attempts to intensify the color of purple petunias. The unexpected result of adding an extra copy of a pigment gene to the DNA of a light purple petunia plant was light purple petals with white stripes. The experiment had accidentally triggered the plants to produce double stranded RNA and suppress, instead of augment, the gene for pigment. RNAi research today shows incredible promise for the development of new drugs to combat a wide range of human diseases.
Imagine listening to a world-renowned scientist, even a Nobel laureate, talk about the most recent discovery of RNA interference (RNAi) over a drink. Now, imagine the two of you are involved in an RNAi experiment together. This, and more, is what members of Cold Spring Harbor Laboratory’s (CSHL) President’s Council enjoyed at their 13th annual meeting, “The RNAi Revolution.”

Members of the council, who make contributions to CSHL of $25,000 or more annually, are invited by the president, Dr. Bruce Stillman, to participate in a special two-day symposium showcasing cutting-edge science. This year’s symposium illuminated the power of RNAi, a mechanism that regulates the expression of genes so that genetic messages are not translated into proteins. It could allow scientists to inhibit genes that give rise to diseases such as cancer. The 2007 meeting was co-chaired by Jane and John H. Friedman, of Easton Capital, an investment group focused primarily on science and health, who are longtime friends of CSHL and patrons of both art and science; Dr. William A. Haseltine, founder and former chairman of Human Genome Sciences, chairman of Haseltine Global Health LLC, and president of the Haseltine Foundation for Medical Sciences and the Arts; and George F. Ohrstrom, president of the Ohrstrom Foundation, which is dedicated to education, civic affairs, conservation, medical research and art.

Members were briefed on “The ABC’s of RNAi” by Nobel laureate Sydney Brenner. They also listened to lectures and watched demonstrations at the Dolan DNA Learning Center (DNALC). Guest lecturers were David Micklos, executive director, DNALC; Bruce Nash, assistant director for science, DNALC; Marja Timmermans, associate professor, CSHL; Gregory Hannon, CSHL professor and Howard Hughes Medical Institute investigator; and Phillip Sharp, Nobel laureate and institute professor, Center for Cancer Research, Massachusetts Institute of Technology. The annual contributions of the President’s Council, which total more than $500,000, support the Cold Spring Harbor Fellows, a group of outstanding postdoctoral scientists who demonstrate the capacity for independent, high-level biomedical research. Long-time CSHL supporter and honorary trustee, Mary D. Lindsay, a member of the President’s Council since its inception in 1994, described her experience: “As a reward for our generosity, the council was invited to spend a weekend at the Lab learning about RNAi. I witnessed RNAi in action ... I examined worms that had genes turned off by feeding the worms double-stranded RNA. It was mind-boggling.”

Joan Tilney, who joined the President’s Council in 2007, was also delighted with the event. “Participating in the President’s Council weekend was like a homecoming for me. My husband, Bob Olney, and I were involved in the Lab during the ‘60s and ’70s when we lived in Cold Spring Harbor. My husband eventually became treasurer of the CSHL Board of Trustees. In October, I traveled from my home in Maine to join the President’s Council for this tremendously stimulating meeting. The money raised by the council goes to support the exceptionally talented scientists in the fellows program, and I feel very blessed to be involved.”

For more information about the President’s Council, contact Kiryn Haslinger at (516) 367-8841 or haslinge@cshl.edu.

Gayle Quaglia

» DNALC’s Bruce Nash shows the President’s Council how to use the Nikon Eclipse 80i microscope to see RNAi in action.

» Nobel laureate Phillip Sharp helps Jane Friedman understand RNAi.

» 3-D representation of a protein named Argonaute, nicknamed Slicer. This protein is integral to the RNAi process and at the heart of the RNAi machinery.