8 scientists share lucrative Kavli Prizes

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(AP) -- Eight scientists from the U.S., Britain and Germany shared three awards worth $1 million each on Thursday for work that has helped humans explore distant corners of the universe and the tiniest particles on Earth.

The biennial Kavli Prizes honor research in three categories: astrophysics, nanoscience and neuroscience. This year's winners were announced at a ceremony in Oslo, which was simultaneously broadcast at the World Science Festival in New York.

The 2010 awards recognize innovations in telescope design, research into the chemistry behind brain activity and breakthroughs in the study of minuscule materials and molecule-sized structures, the Norwegian prize officials said.

The award for astrophysics was shared by American Jerry Nelson of the University of California, Santa Cruz; British scientist Raymond Wilson of the European Southern Observatory and formerly of Imperial College London; and Roger Angel of the University of Arizona. Angel has British and U.S. citizenship.

Working separately, Nelson and Angel improved the structure of telescopes, making them more powerful and allowing them to provide higher-resolution images. Wilson's work also helped astronomers gaze further into space by using computers to correct for the distorting effects of gravity, wind and temperature on telescopes.

The neuroscience prize was awarded to German Thomas Suedhof of Stanford University and Americans Richard Scheller of the biotechnology company Genentech and James Rothman of Yale University.

Suedhof and Scheller both discovered genes that govern the way nerve cells in the brain communicate. Rothman showed how vesicles - tiny sacks that shuttle molecules within cells - are directed to specific parts of brain cells to control brain function, hormone release and a host of other activities.

Americans Nadrian Seeman of New York University and Donald Eigler of IBM's Almaden Research Center won the nanoscience prize, which honors research on exceedingly tiny materials and structures often smaller than a single human cell.

"Feels great. What can I say?" Seeman, 64, said in a phone interview from the World Science Festival.

"It means recognition for a field in which there are a lot of people, most of them a lot younger than me, participating," he said.

Seeman discovered that DNA - the genetic material of living creatures - could be used to construct an assortment of molecule-sized devices and machines. In a recent study published in the science journal "Nature," Seeman and others showed how they built from DNA a functioning assembly line of molecular robots.

In 1989, Eigler became the first person to succeed at moving precisely an individual atom from one place to another. He then made "a series of breakthroughs that have helped us to understand some of the most basic units of matter," the citation said.

The Norwegian Academy of Science and Letters awards the prizes in partnership with the Kavli Foundation and Norway's Ministry of Education and Research. The awards carry a $1 million purse apiece. The winners are selected by leading scientists in each field.

First awarded in 2008, the prizes are named after their founder, Norwegian entrepreneur and philanthropist Fred Kavli. He moved to the U.S. in 1956 and became the CEO of Kavlico Corp., one of the world's largest suppliers of sensors for aeronautics, automotive and industrial uses. He sold the company in 2000 and used the profit to found the California-based Kavli Foundation.

More information: http://www.kavliprize.no