



GRUBER FOUNDATION

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FOR IMMEDIATE RELEASE



Shigetada Nakanishi

Shigetada Nakanishi Honored with \$500,000 Gruber Prize for Neuroscience

June 28, 2007, New York, New York -- Over the last forty years, Shigetada Nakanishi has unraveled many of the molecular secrets that underpin the function of the human nervous system. His work has created new tools for researchers, and new drug targets for pharmacologists.

For his achievements, Nakanishi, director of the Osaka Bioscience Institute, will receive the 2007 Gruber Prize for Neuroscience on November 4, 2007 at the Society for Neuroscience annual meeting in San Diego, California. The prize consists of a gold medal and \$US500,000.

"A full understanding of the workings of the human brain is still decades or more away," according to Richard W. Tsien, a member of the Gruber Foundation's Neuroscience Selection Advisory Board.

"But Shigetada Nakanishi's work is bringing it closer. He is an unusual researcher who has both created sophisticated tools to help us investigate the brain, and used these tools to make remarkable discoveries about the molecular processes used throughout the nervous system: our senses, movement control, cognition, learning, memory and much more," says Tsien.

Nakanishi's achievements include:

- Expressing genes in frog eggs to find new genes and proteins associated with brain function
- Using this technique to identify receptors in the membranes of neurons that trigger the biochemical steps that lead to learning, memory and vision
- Understanding how some of these proteins act in the "electrical" circuits formed between neurons.

"Shigetada Nakanishi is laying the foundations for us to understand how our brains work – from the molecular level through to the complex interactions between networks of neurons," says Peter Gruber, Chairman of the Peter and Patricia Gruber Foundation.

The Neuroscience Prize honors leading scientists for distinguished contributions in the fields of the brain, spinal cord, and peripheral nervous system. The Foundation's other international prizes are in Cosmology, Genetics, Justice, and Women's Rights.

Nominations for the 2008 prizes are now open and close on December 31, 2007

A profile of Nakanishi, photos, background information and nomination details for 2008 are available online at www.gruberprizes.org.

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Shigetada Nakanishi can be contacted for interview in Japan on +81 (6) 6872 4810, snakanis@obi.or.jp

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Additional Information

The official citation reads:

The Peter and Patricia Gruber Foundation proudly presents the 2007 Neuroscience Prize to Shigetada Nakanishi who developed tools that enabled him and others to probe fundamental molecular mechanisms of nervous system function. By expressing genes in frog oocytes, he discovered new genes of the nervous system and identified novel membrane receptors. Some of these receptors respond to peptide hormones and others to glutamate, the major excitatory chemical signal of the brain. These receptors are critical for many vital processes of the nervous system, including learning, memory and vision.

More recently, he has devised and applied elegant techniques to understand in detail how receptors on neuron membranes act at critical stages in the operation of synaptic circuits. His work integrates multiple levels of neuroscience, from molecules to complex neuronal networks.

Past Laureates of the Gruber Neuroscience Prize:

- 2006: **Masao Ito** and **Roger Nicoll**, for work on the molecular and cellular bases of memory and learning
- 2005: **Masakazu Konishi** and **Eric Knudsen**, for work on the neural basis of sound localization
- 2004: **Seymour Benzer**, for applying the tools of molecular biology and genetics to the fruit fly, *Drosophila*, and linking individual genes to their behavioral phenotypes

2007 Gruber Neuroscience Prize Selection Advisory Board Members:

- **Carol A. Barnes**, PhD, University of Arizona
- **Colin Blakemore**, Professor, Medical Research Council
- **Linda S. Buck**, PhD, Fred Hutchinson Cancer Research Center
- **Sten Grillner**, Professor, Karolinska Institute
- **H. Robert Horvitz**, Professor, Massachusetts Institute of Technology
- **Donald Price**, Professor, Johns Hopkins University School of Medicine
- **Richard W. Tsien**, Professor, Stanford University School of Medicine

The Gruber Prize Program honors contemporary individuals in the fields of Cosmology, Genetics, Neuroscience, Justice and Women's Rights, whose groundbreaking work provides new models that inspire and enable fundamental shifts in knowledge and culture. The Selection Advisory Boards choose individuals whose contributions in their respective fields advance our knowledge, potentially have a profound impact on our lives, and, in the case of the Justice and Women's Rights Prizes, demonstrate courage and commitment in the face of significant obstacles.

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The Peter and Patricia Gruber Foundation honors and encourages educational excellence, social justice and scientific achievements that better the human condition. For more information about Foundation guidelines and priorities, please visit www.gruberprizes.org.

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For more information on the Gruber Prizes email media@gruberprizes.org or contact Bernetia Akin of the Gruber Foundation at +1 (340) 775-8035 or by mail 140 W 57th St Suite 10C New York, NY 10019.

Media materials and additional background information on the Gruber Prizes can be found at **our online newsroom:** www.gruberprizes.org/Press.php

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