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FOR IMMEDIATE RELEASE

Robert Wurtz receives Neuroscience Prize Lectures on 'Brain Circuits for Active Vision'

November 12, 2010, New York, NY - Seated in the back seat, stuck in a traffic jam, you suddenly see there is movement. But is it your lane creeping forward, or is it the car on your right, reversing?

And just how does your brain determine the answer?

The prominent neuroscientist Robert H. Wurtz, who has spent a career resolving similar and far more complex questions, will deliver a lecture on his findings Sunday at the Annual Meeting of the Society for Neuroscience in San Diego – just after he accepts the \$500,000 Gruber Neuroscience Prize for 2010.

Two promising young neuroscientists, Laura L. Colgin, PhD, of the University of Texas at Austin, and Jason D. Shepherd, PhD, of MIT, also will be recognized at the event. They are the recipients of the International Research Award in Neuroscience. The fellowships are sponsored by the Gruber Foundation and administered by SfN.

Wurtz is being honored for his research on visual cognition; he has laid the groundwork for breakthrough discoveries about the neurophysiology of such phenomena as attention, motion perception and motivation, as well as for a better understanding of various brain conditions and diseases including Parkinson's disease, Huntington's disease and stroke.

His first major breakthrough came in 1969; other researchers were already observing neuronal activity in the brains of primates, but they had to anesthetize the animals first, thus limiting what could be studied. Wurtz managed to train monkeys to hold their eyes still for a few seconds at a time, thereby allowing him to observe and record their neurons as they reacted to visual stimuli. Later, he mapped the field of individual neurons in the awake brain that receive visual information. He showed how different forebrain structures, such as the primary visual cortex, help visual processing, and how subcortical brain structure, such as the superior colliculus and the basal ganglia, initiate eye movements. He also discovered some of the pathways by which these structures interact with one another.

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Additional Information

The official citation for the Prize reads:

The Peter and Patricia Gruber Foundation proudly presents the 2010 Neuroscience Prize to Robert Wurtz for his pioneering work concerning the neural bases of visual processing in primates.

Robert Wurtz was the first to realize that neurons in the visual system could be studied at both the cortical and subcortical level in awake primates trained to generate different forms of eye movements. All current work on visual cognition, looking at phenomena like attention, motion perception, and motivation, was made possible through these initial studies. Dr. Wurtz's studies have elucidated how different forebrain structures contribute to visual processing, and how subcortical structures initiate eye movements.

Robert Wurtz's work has inspired the research of many others in the broad field of cognitive neuroscience and serves as an exemplar of physiological approaches to the understanding of complex forms of behavior.

The Gruber Foundation has awarded the Neuroscience Prize annually since 2004. Laureates are: Jeffrey C. Hall, Michael Rosbash and Michael Young; John M. O'Keefe; Shigetada Nakanishi; Masao Ito and Roger Nicoll; Eric Knudsen and Masakazu Konishi; and Seymour Benzer.

An independent Neuroscience Prize Selection Advisory Board, whose members are recommended by the Society for Neuroscience, chooses the annual recipient from nominations received worldwide. Current members are:

Carol A. Barnes, Evelyn F. McKnight Brain Institute, University of Arizona; **Sten Grillner (Chair)**, Karolinska Institute; **Stephen Heinemann**, Salk Institute; **H. Robert Horvitz**, Massachusetts Institute of Technology; **Masao Ito**, RIKEN Brain Science Institute; **Erwin Neher**, Max-Planck Institute; **Li-Huei Tsai**, Massachusetts Institute of Technology.

The Gruber International 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.

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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