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FOR IMMEDIATE RELEASE

Huda Zoghbi

Huda Y. Zoghbi Receives 2011 Gruber Neuroscience Prize—Research Points to Treatment of Neurological Disorders

November 12, 2011, New York, NY – A woman who has helped to solve some of the most baffling – and frightening – mysteries of modern medicine will receive the 2011 Neuroscience Prize of the Gruber Foundation on November 13 at the Annual Meeting of the Society for Neuroscience, in Washington, D.C.

Professor Huda Zoghbi, M.D. is being honored with the $500,000 Prize for work tracing genetic links to a number of neurological disorders including Rett Syndrome, autism spectrum disorders and inherited ataxias.

It is Zoghbi who co-discovered a mutation in the gene known as *ATAXIN1* that can lead to spinocerebellar ataxia type I, a neurodegenerative disorder in which the person loses control of movement. Later she discovered that mutations in the gene *MECP2* cause Rett syndrome. Mutations in MECP2 also cause various neuropsychiatric disorders, from mild learning deficits to early-onset schizophrenia. Her lab also identified *Math 1*, a gene that controls the formation of hair cells in the inner ear and of specialized neurons involved in balance and proprioception (the unconscious sense of one's position in space.) *Math 1* can also effect the development of a brain tumor known as medulloblastoma in children and youth.

Zoghbi entered the lab through the doctor's office. Originally trained as a clinical pediatric neurologist, she was seeing too many patients that she couldn't help significantly because science couldn't identify the cause of their disorders. She says she went into research "to discover something that might help the patient."

Originally from Beirut, Lebanon, in 1976 Zoghbi fled civil war in her country and completed her medical training in the U.S. She served her residency and a postdoctoral fellowship at Baylor College of Medicine in Houston, Texas, where she has continued to work ever since.

Following the presentation of the Prize, Zoghbi will deliver a lecture to the SfN audience entitled "Rett syndrome: Linking Epigenetics and Neuronal Plasticity." Per her description of the lecture, it will include a discussion of "how genetic, molecular and electrophysiological studies are demonstrating the critical role of MeCP2 in postnatal brain function and synaptic plasticity, and providing insight into the pathogenesis of Rett syndrome and other neuropsychiatric disorders."

Additional Information

In addition to the cash award, the recipient will receive a gold medal and a citation that reads:

The Peter and Patricia Gruber Foundation proudly presents the 2011 Neuroscience Prize to Huda Zoghbi for her pioneering work on revealing the genetic underpinnings of neurological disorders.

Huda Zoghbi discovered that mutations in the *MECP2* gene cause Rett syndrome, an autism spectrum disorder. Her work on *MECP2* offers a new understanding of gene regulation in brain disorders and opens a new approach to studies of autism and other psychiatric disorders. She also illuminated the genetic basis of several spinocerebellar ataxias and provided insights on the role of protein aggregation in neurodegeneration.

Huda Zoghbi's work has inspired many other researchers in the broad field of neurological disorders, and serves as an exemplar of how complex brain disorders can be better understood by basic genetics and molecular neuroscience.

Laureates of the Gruber Neuroscience Prize:

- **2010: Robert H. Wurtz,** for pioneering work concerning the neural bases of visual processing in primates.
- **2009: Jeffrey C. Hall, Michael Rosbash,** and **Michael Young,** for revealing the gene-driven mechanism that controls rhythm in the nervous system
- **2008: John O'Keefe,** for discovering place cells, which led to important findings in cognitive neuroscience
- **2007: Shigetada Nakanishi,** for pioneering research into communication between nerve cells in the brain
- **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

The Prize recipients are chosen by the Neuroscience Selection Advisory Board. Its members are: **Carol A. Barnes,** University of Arizona, **Stephen Heinemann,** Salk Institute, **Masao Ito,** RIKEN Brain Institute, **David Lewis,** University of Pittsburgh, **Erwin Neher,** Max-Planck Institute, **Li-Huei Tsai,** Massachusetts Institute of Technology.

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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 Neuroscience Prize honors scientists for major discoveries that have advanced the understanding of the nervous system.

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

By agreement made in the spring of 2011 the Gruber Foundation has now been established at Yale University.