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*FOR IMMEDIATE RELEASE*

**Ronald Davis**

# Biochemist and Geneticist Ronald W. Davis Receives $500,000 Gruber Genetics Prize at 12th International Congress of Human Genetics in Montreal

*October 12, 2011, New York, NY* – A scientific prodigy with a hands-on approach, Ronald W. Davis impressed the world of genetics with a stunning thesis describing one of the first mapping methods for DNA while he was still a graduate student. More than a generation later, his prolific inventiveness has earned him the respect and gratitude of the genetics community as well as the 2011 Genetics Prize of the Gruber Foundation.

Thousands of his scientific colleagues will be on hand at the 12th International Congress of Human Genetics in Montreal when Davis accepts the $500,000 award on October 13 and delivers a lecture entitled "Health Advanced Technology Project (HAT Project.)" The ICHG is being held in conjunction with this year's Annual Meeting of the American Society for Human Genetics.

A professor of biochemistry and genetics at Stanford University, Davis has spent his career developing biotech infrastructure and teaching and mentoring others. His successes have provided the tools for decades of breakthrough research and continue to impact genetic discoveries.

Admirers argue over which of his achievements is greatest. Davis created some of the earliest cloning vectors, DNA molecules that carry foreign DNA into a host cell where it can be replicated. His lab developed the first known artificially constructed chromosomes, which are now routinely used to clone large genes and to map complex genomes. He is credited with introducing genome editing, that is, replacing a nucleotide in a yeast genome with another nucleotide.

His groundbreaking paper describing how sequence variants in human – and other – genomes can be used as genetic markers to create a genetic map of the human genome helped to launch the field of

genomics. And he is well known for helping to develop microarrays, which enable scientists to analyze the gene expression of thousands of genes simultaneously.

Davis quite literally wrote the book on genetic engineering techniques, publishing the first manual with the Cold Spring Harbor press. His contributions are confined neither to the lab nor to the classroom. Rather, he has served on a myriad of scientific committees and commissions, including the National Institutes of Health (NIH) Genome Research Review Committee, the NIH Center for Biomedical Ethics Steering Committee, The World Health Organization (WHO) Immunology of Tuberculosis Steering Committee, and, as chairman, on the WHO Strategic Research Steering Committee.

## 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 Genetics Prize to Ronald W. Davis, a pioneer in the development and application of recombinant-DNA techniques.

Davis discovered that the *EcoRI* restriction endonuclease generates "sticky" ends when it cleaves DNA and, based on this discovery, developed highly efficient systems for producing, propagating, and screening recombinant-DNA clones in *Escherichia coli*. This technology shaped later approaches to the study of the human and other genomes.

Using the yeast *Saccharomyces cerevisiae* as host, Davis designed recombinant-DNA molecules whose genetic behavior could be precisely controlled. During this work, he discovered the first eukaryotic replication origins, the autonomously replicating sequences, and carried out the first targeted deletion of a gene. Throughout his career—by training students, communicating openly with colleagues, and leading through the example of his own research—Davis has profoundly influenced the way scientists study the molecular basis of life.

Laureates of the Gruber Genetics Prize:

- **2010: Gerald Fink,** whose work in yeast genetics advanced the field of molecular genetics
- **2009: Janet Davison Rowley,** for her seminal discoveries in molecular oncology
- **2008: Allan C. Spradling,** for his work on fly genomics
- **2007: Maynard V. Olson,** for his contributions to genome science
- **2006: Elizabeth H. Blackburn,** for her studies of telomeres and telomerase, and her science advocacy
- **2005: Robert H. Waterston,** for his pivotal role in the Human Genome Project

- **2004: Mary-Claire King,** for three major findings in modern genetics: the similarity of the human and chimpanzee genomes, finding a gene that predisposes to breast cancer, and forensic genetics.
- **2003: David Botstein,** a driving force in modern genetics who established the ground rules for human genetic mapping
- **2002: H. Robert Horvitz,** who defined genetic pathways responsible for programmed cell death
- **2001: Rudolf Jaenisch,** who created the first transgenic mouse to study human disease

The Prize recipients are chosen by the Genetics Selection Advisory Board. Its members are:

**Elizabeth H. Blackburn,** University of California, San Francisco; **Martin Chalfie,** Columbia University; **Mary-Claire King,** University of Washington; **Maynard Olson,** Genome Center, University of Washington; **Janet Rowley,** University of Chicago; **Allan C. Spradling,** Carnegie Institution, Howard Hughes Medical Institute; **Robert H. Waterston,** University of Washington.

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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.

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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 e-mail media@gruberprizes.org or contact Bernetia Akin of the Gruber Foundation at +1 (340) 775-4430 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.

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