



FROM: The Albert and Mary Lasker Foundation
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2013 LASKER AWARDS HONOR SCIENTISTS FOR PIONEERING MEDICAL RESEARCH

Richard H. Scheller and Thomas C. Südhof for discoveries concerning the molecular machinery and regulatory mechanism that underlie the rapid release of neurotransmitters.

Graeme M. Clark, Ingeborg Hochmair and Blake S. Wilson for the development of the modern cochlear implant – a device that bestows hearing to individuals with profound deafness.

Bill Gates and Melinda Gates for leading a historic transformation in the way we view the globe's most pressing health concerns and improving the lives of millions of the world's most vulnerable.

New York, Sept. 9, 2013 — The Albert and Mary Lasker Foundation, which for 68 years has championed the greatest advances in medical research, today announced the winners of the 2013 Lasker Awards: Richard H. Scheller and Thomas C. Südhof for basic medical research; Graeme M. Clark, Ingeborg Hochmair and Blake S. Wilson for clinical research; and Bill Gates and Melinda Gates for public service. The Lasker Awards — among the most respected science prizes in the world — honor visionaries whose insight and perseverance have led to dramatic advances that will prevent disease, reduce disability, and diminish suffering.

“The Lasker Awards showcase the power of biomedical research to advance science, save lives, and avert suffering the world over,” said Alfred Sommer, Chair of the Foundation’s Board of Directors. “This year’s awards celebrate that tradition by honoring fundamental discoveries about brain function, the creation of an innovative technology that confers hearing to profoundly deaf people, and the powerful impact of results-driven philanthropy that has enhanced the quality of life for millions around the globe.”

Scheller (Genentech, South San Francisco, California) and Südhof (Stanford University School of Medicine) will receive the 2013 Albert Lasker Basic Medical Research Award for discoveries concerning rapid neurotransmitter release, a process key to the way our brain cells communicate. Clark (emeritus at University of Melbourne, Australia), Hochmair (MED-EL, Innsbruck, Austria) and Wilson (Duke University) will receive the 2013 Lasker-DeBakey

Clinical Medical Research Award for developing the modern cochlear implant, a device that allows the profoundly deaf to hear. Bill Gates and Melinda Gates (Bill & Melinda Gates Foundation, Seattle, Washington) will receive the 2013 Lasker~Bloomberg Public Service Award for inspired philanthropy addressing the most pressing global health concerns.

“The Lasker Awards celebrate the wonder of scientific discovery and the power its translation holds to improve individual lives and societal well-being,” said Claire Pomeroy, President of the Lasker Foundation. “For almost 70 years the Lasker Awards have demonstrated to the public the importance of medical research. Now, when science funding is especially imperiled, that recognition is more crucial than ever.”

Joseph L. Goldstein, Chair of the Lasker Medical Research Awards Jury, pointed out a striking similarity between this year’s Basic and Clinical Research winners. “All five winners embarked on undertakings that required a remarkable degree of technical courage,” he said. Scheller and Südhof independently began a biochemical and molecular exploration of the virgin territory of neurotransmission at a time – 25 years ago – when not a single protein in the process had been characterized. In a completely different realm, Clark, Hochmair, and Wilson similarly pursued a goal that many experts deemed impossible. Yet both lines of inquiry opened up entire new worlds. Scheller and Südhof revealed unprecedented detail about how brain cells send messages to one another, and Clark, Hochmair, and Wilson cracked the sound barrier for people with severe hearing problems.”

“Bill Gates and Melinda Gates are profoundly generous philanthropic leaders committed to finding solutions to some of the world’s toughest, most neglected health problems. Driven by their ardent belief that all people deserve a chance to live a healthy productive life, they have acted boldly to prevent human suffering on a wide scale,” Sommer added.

Richard H. Scheller and Thomas C. Südhof for Discoveries Concerning Neurotransmitters

The 2013 Albert Lasker Basic Medical Research Award honors Richard H. Scheller, 59, and Thomas C. Südhof, 57, for discoveries related to rapid neurotransmitter release, a process that helps drive intercellular communications within the brain. They identified and isolated key molecular participants, defined fundamental interactions among these elements, and deciphered details that govern and assure rapid neurotransmitter release.

By the 1950s, scientists had determined that cells release neurotransmitters – chemical messengers – that convey signals in the brain. The process begins with an electrical impulse that runs down a nerve cell or neuron. When the signal reaches the tip, calcium enters the cell. In response, the neuron emits the neurotransmitters from balloon-like vesicles. The neurotransmitters then pass the message to the receiving neuron.

Through elegant experimentation starting in the 1980s, Scheller and Südhof identified key proteins and demonstrated the mechanism by which calcium triggers the fusion process, revolutionizing our understanding of how the brain works. Their discoveries have influenced nearly every aspect of neuroscience research and shed light on the complexities of brain disease, information processing, learning, memory, and human behavior.

Graeme M. Clark, Ingeborg Hochmair and Blake S. Wilson for Development of the Modern Cochlear Implant

The 2013 Lasker-DeBakey Clinical Medical Research Award honors Graeme M. Clark, 78, Ingeborg Hochmair, 60, and Blake S. Wilson, 65, for developing the modern cochlear implant, a device that bestows hearing on profoundly deaf people. The apparatus has for the first time substantially restored a human sense with a medical intervention.

In normal hearing, auditory structures capture sound and translate it into information that the brain can interpret. The ear canal funnels vibrations onto the eardrum, and movements there perturb tiny bones, which propagate the fluctuations to the inner ear. Waves roll through the cochlea, a snail-shaped tube, and bend the thousands of delicate hair cells that lie within this organ. The displacements cause the hair cells to produce an electrical signal that stimulates the auditory nerve, and the message continues to the brain. In most cases, severe hearing loss arises from damage to or absence of the sensory hair cells. Cochlear implants bypass the need for these cells by using electrical stimuli to directly excite the auditory nerve.

Devices invented in the 1950s delivered current through a single wire to one spot on the cochlea, enabling some patients to perceive environmental sounds and improve their ability to read lips. Then in the late 1970s, Hochmair and Clark created prostheses that deployed multiple electrodes and routed particular sounds to different parts of the cochlea. These devices improved the ability of deaf people to comprehend speech. A little more than a decade later, Wilson designed a speech-processing strategy that minimized distortions and omissions, enabling implant recipients to understand words and sentences without visual cues.

Throughout the world today, there are about 320,000 people outfitted with cochlear implants. Most recipients can talk on their cell phones and follow conversations in relatively quiet environments, and an increasing number of patients with severe age-related hearing loss are taking advantage of this marvelous invention.

Bill Gates and Melinda Gates for Improving the Lives of the World's Most Vulnerable People

The Lasker-Bloomberg Public Service Award honors Bill Gates, 57, and Melinda Gates, 49, for improving how the world's gravest health concerns are addressed and enhancing the lives of millions of impoverished people. Through a deep personal commitment, inspired leadership, and philanthropy totaling more than \$26 billion, the Gateses have spurred initiatives and research that tackle some of the planet's toughest health problems. Guided by the belief that all people deserve a chance to live a healthy, productive life, these visionaries have helped make global health a top priority.

In the late 1990s, Bill and Melinda Gates learned that more than a half-million children in the developing world died each year from rotavirus infection, a disease that could be easily treated with oral rehydration regimes. Despite the toll, preventing and treating the illness was not a top priority among governments and health organizations. This realization crystallized into the couple's philanthropic mission.

They went on to underwrite the GAVI Alliance, a coalition of organizations that has hastened vaccine development and helped immunize hundreds-of-millions of poor children against rotavirus, pneumonia-causing bacteria, and other killers. Their foundation fosters collaborative projects related to sustainable agriculture and introduced the “Grand Challenges in Public Health,” which seeks to solve key health problems in the developing world. Current priorities include eradicating polio and promoting family planning.

Bill and Melinda Gates are eloquent advocates for medical advancement and improved global health. They have strived to build a bridge between the most powerful and most vulnerable to conquer disease and extend life.

Additional information:

About the Foundation: The Albert and Mary Lasker Foundation fosters the prevention and treatment of disease and disabilities by honoring excellence in basic and clinical science, by educating the public, and by advocating for support of medical research. Founded in 1942, the Lasker Foundation presents the prestigious Lasker Awards, which recognize the world's leaders in basic and clinical medical research and individuals with outstanding public service. For much of the 20th Century, the Foundation was led by Mary Lasker, who was America's most prominent citizen-activist for public investment in medical research. She is widely credited with motivating the White House and Congress to greatly expand federal funding for medical research, particularly through the National Institutes of Health.

About the Awards: The Lasker Awards are among the most respected science prizes in the world. Recipients of the Lasker Medical Research Awards are selected by a distinguished international jury chaired by Joseph L. Goldstein, recipient of the 1985 Lasker Award for Basic Medical Research and the Nobel Prize in Medicine. Lasker Laureates receive a citation highlighting their achievements and an inscribed statuette of the Winged Victory of Samothrace, the Lasker Foundation's traditional symbol representing humanity's victory over disease, disability, and death. Eighty-three Lasker laureates have received the Nobel Prize, including 31 in the past two decades. More details on the Lasker Award recipients, the full citations for each award category, video interviews and photos of the awardees, and additional information on the foundation are available at www.laskerfoundation.org.

Awards Presentation: The Lasker Awards, which carry an honorarium of \$250,000 for each category, will be presented on Friday, September 20 in New York City.