



FOR IMMEDIATE RELEASE
July 14, 2015

CONTACT: Barry Toiv
202-408-7500, barry.toiv@au.edu

**GOLDEN GOOSE AWARD: LAB MISTAKE IN RESEARCH ON CATS' VISION LEADS TO
ADVANCES IN BRAIN RESEARCH AND IMPROVED VISION FOR CHILDREN BORN
WITH CATARACTS, INFORMS GROUNDBREAKING RESEARCH ON COMPUTER
TECHNOLOGY**

**Torsten Wiesel and the Late David Hubel Will Be Honored with Golden Goose Award at
Library of Congress Ceremony on September 17**

Neurophysiologists Torsten Wiesel and David Hubel, whose early research involved cats staring at black dots on a screen, are responsible for major progress in our understanding of the brain, for significant advances in the treatment of childhood cataracts, and for informing current research to enable computers to process images more like the human mind. But their extraordinary, federally funded research really took off with a simple, fortuitous accident with the kittens in their lab: somebody pushed a glass slide too far on an overhead projector.

For their decades of research and its humble, serendipitous beginnings, Dr. Wiesel and the late Dr. Hubel have been selected as the second winners of the 2015 Golden Goose Award, the award's founders announced today.

The Golden Goose Award honors researchers whose federally funded work may have seemed odd or obscure when it was first conducted but has resulted in significant benefits to society.

“Thanks to two scientists, federal funding, and a mistake in the lab, we have new discoveries about the human brain and how to improve eyesight in children,” said Rep. Jim Cooper (D-TN), whose idea it was to create the Golden Goose Award. “Thank goodness for serendipity.”

Funded by the National Institutes of Health and Air Force Office of Scientific Research, Drs. Wiesel and Hubel, in 1958, were seeking to determine how certain nerve cells, or neurons, responded to stimuli. To do so, they had cats as well as monkeys looking at a simple stimulus – a black dot on a clear glass slide, projected onto a screen. But they were frustrated to find that the neurons they were targeting were not responsive. It was only when one of the researchers accidentally moved the slide a little too far, bringing the faint edge of the glass slide into view, that the neurons began to respond.

Over the course of the next several months, Hubel and Wiesel made humanity's first crucial steps forward in understanding the brain's visual processing systems. They found that particular neurons in the visual cortexes of cats—the areas in their brains responsible for processing visual information—didn't respond to simple points of light, but rather to lines. And they found that the neurons responded to input from both eyes, but that one eye was almost always dominant. Eventually they determined that the neurons of the visual cortex form elegantly organized functional maps.

“Drs. David Hubel and Torsten Wiesel are a prime example of how science often advances our understanding of the world in ways we could never have foreseen,” said Representative Robert Dold

(R-PA), a supporter of the Golden Goose Award. “Because of their fortuitous accident, untold numbers of children around the world have grown up with better vision. We are indebted to them for their discovery.”

Conducting their work at The Johns Hopkins University and then at Harvard University, the two scientists eventually produced some of the first clear demonstrations of neuroplasticity – the brain’s ability to wire and rewire itself in response to external inputs – and how it fades from childhood to adulthood.

“This study, which led to new medical treatment for children with cataracts, is a perfect example of how seemingly unrelated research can lead to extraordinary breakthroughs for human health,” said Rep. Donna F. Edwards, another supporter of the Golden Goose Award. “Basic science research conducted at top scientific institutions such as Johns Hopkins here in Maryland, where Drs. Hubel & Wiesel began their work, is leading to new understanding of how the human brain functions and to new medical treatments.”

These discoveries led to a significant change in the treatment of childhood cataracts that has helped untold numbers of children. For years, doctors had found frustratingly poor results in children who had undergone surgery late in childhood. With Hubel and Wiesel’s new understanding of how critical it is to the wiring of the brain for young eyes to get normal visual input, doctors began conducting surgery as early as possible, with much better outcomes.

Today, their work, which earned them the Nobel Prize, also informs advanced computer science, especially “machine vision” – research intended to help computers improve their visual processing, an area where they remain well behind human capabilities.

Earlier this year, the Golden Goose Award founders announced that [Walter Mischel, Yuichi Shoda, and Philip Peake](#) would receive the award for their creation and development of the Marshmallow Test. A third set of honorees will be announced in September. The awardees will receive their honors on September 17 at the fourth annual Golden Goose Awards ceremony, which will take place in the Jefferson Building of the Library of Congress, in Washington, DC.

Rep. Cooper first had the idea for the Golden Goose Award when the late Senator William Proxmire (D-WI) was issuing the Golden Fleece Award to target wasteful federal spending and often targeted peer-reviewed science because it sounded odd. Rep. Cooper believed such an award was needed to counter the false impression that odd-sounding research was not useful.

In 2012, a coalition of business, university, and scientific organizations created the Golden Goose Award. Like the bipartisan group of Members of Congress who support the Golden Goose Award, the founding organizations believe that federally funded basic scientific research is the cornerstone of American innovation and essential to our economic growth, health, global competitiveness, and national security. Award recipients are selected by a panel of respected scientists and university research leaders.

Additional information about the Golden Goose Award, including previous winners and sponsors, can be found at www.goldengooseaward.org and on Twitter at [@GoldGooseAward](https://twitter.com/GoldGooseAward).

Golden Goose Award Founding Organizations:

[**American Association for the Advancement of Science \(AAAS\)**](#)

[Association of American Universities \(AAU\)](#)
[Association of Public and Land-grant Universities \(APLU\)](#)
[Breakthrough Institute](#)
[Progressive Policy Institute \(PPI\)](#)
[Richard Lounsbery Foundation](#)
[The Science Coalition \(TSC\)](#)
[Task Force on American Innovation](#)
[United for Medical Research](#)

Golden Goose Award 2015 Sponsors

Benefactor

Elsevier

Partner

United for Medical Research

Friend

SAGE Publications

Contributors

American Mathematical Society
APS-Physics
Association for Psychological Science
Association of American Medical Colleges
Battelle

Supporters

American Astronomical Society
American Educational Research Association
American Physiological Society
American Psychological Association
American Society for Microbiology
The Biophysical Society
Consortium of Social Science Associations (COSSA)
Federation of American Societies for Experimental Biology (FASEB)
Federation of Associations in Behavioral & Brain Sciences (FABBS)
IEEE-USA
The Optical Society
Semiconductor Industry Association
Society for Research in Child Development
Texas Instruments

#####