

# Optogenetics Pioneers Ed Boyden, Karl Deisseroth, Gero Miesenböck Garner International Research Prizes

SAN FRANCISCO and MAINZ, Germany, Nov. 10, 2015 — Three optogenetics researchers have been recognized with international awards for their pioneering work on controlling cells with light.

Ed Boyden, of the Massachusetts Institute of Technology, and Karl Deisseroth, of Stanford University and the Howard Hughes Medical Institute, were each awarded a 2016 Breakthrough Prize in Life Sciences, which includes \$3 million in cash.



**Ed Boyden**

Both were acknowledged for their individual contributions to the development and implementation of optogenetics, a technique that makes use of light-sensitive proteins to control neural and other cells.

Meanwhile, Gero Miesenböck, of the University of Oxford and the Centre for Neural Circuits and Behavior in England, received the €100,000 Heinrich Wieland Prize.



**Karl Deisseroth**

Miesenböck is credited as the first to insert a light-controlled on/off switch into brain cells in 1999. To switch specific nerve cells on and off using light, Miesenböck initially transferred three different fruit fly genes into the brains of mice. Within a few years, Miesenböck and other researchers found ways to control the activity of nerve cells in millisecond intervals by transferring a single gene.

The Wieland Prize honors outstanding research on biologically active molecules and systems in the fields of chemistry, biochemistry and physiology, as well as their clinical importance. It is presented annually by the Boehringer Ingelheim Foundation of Germany.



**Gero Miesenböck**

The Breakthrough Prize, now in its third year, honors transformative advances toward understanding living systems and extending human life. It was founded by Internet entrepreneurs including Facebook founder Mark Zuckerberg, Alibaba Group founder Jack Ma, Google cofounder Sergey Brin and 23andMe cofounder Anne Wojcicki.

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