Jet Propulsion Laboratory
California Institute of Technology
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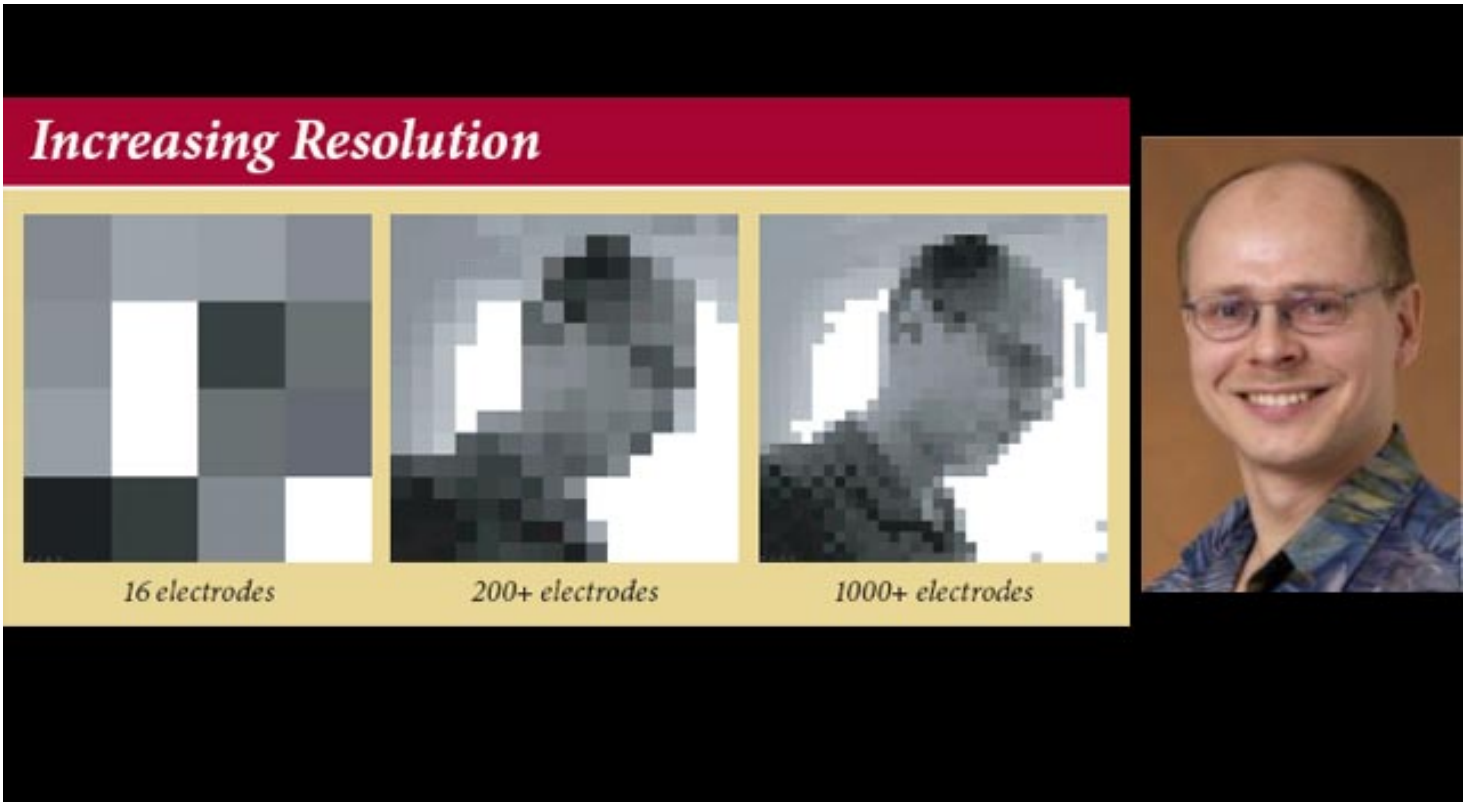
# Technology to Treat Blindness Earns Award




These images aproximate what patients with retinal devices ideally could see. It is hoped that increasing the number of electrodes will result in more visual perceptions and higher-resolution vision. Credit: California Institute of Technology

Wolfgang Fink, senior researcher at NASA's Jet Propulsion Laboratory in Pasadena, Calif., is part of a Department of Energy-funded consortium that has received one of R&D Magazine's 2009 R&D 100 awards for developing an artificial retina. The prize recognizes significant new technologies that exemplify the most innovative ideas of the previous year.

Fink and his associate at Caltech have devised and implemented a versatile image-processing software system called the Artificial Retinal Implant Vision Simulator. The software system enhances and processes the images captured by the miniature camera in real time according to individually selectable image filters; those processed

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images are then transmitted to the artificial retina's electrode array within the eye to electrically stimulate visual perception in the blind.

The artificial retina is a bioelectronic implant that aims to give people with age-related macular degeneration or retinitis pigmentosa--two severe forms of retinal degeneration that lead to blindness--the ability to recognize objects and navigate through their environment. It works via a camera mounted on a pair of glasses, which sends visual information to an implanted electronic receiver.

For more see full Caltech news release:
http://today.caltech.edu/today/story-display.tcl?story_id=37527



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