



USC Roski Eye Institute - Press Office

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Dr. Mark Humayun elected a 2016 Fellow of the National Academy of Inventors

Prestigious honor recognizes Dr. Humayun's technology innovation in ophthalmology including Argus II

LOS ANGELES – Today the National Academy of Inventors (NAI) announced Mark S. Humayun, MD, PhD, co-director of the University of Southern California (USC) Roski Eye Institute and director of the USC Institute for Biomedical Therapeutics, has been elected to the NAI 2016 Fellows Program, the highest professional distinction accorded solely to academic inventors. Humayun will attend the NAI Fellow induction ceremony at the John F. Kennedy Presidential Library and Museum in Boston next April.

Founded in 2010, NAI Fellows are nominated by their peers and chosen based on their prolific contribution in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development and the welfare of society.

Humayun merges medicine and engineering to focus on developing treatments for the most debilitating and challenging eye diseases and holds more than 100 issued patents and patent applications, most in the area of bioimplants for ophthalmology. He is a USC professor with joint appointments in ophthalmology, cell and neurobiology at the <u>Keck School of Medicine of USC</u>, and in biomedical engineering at the USC Viterbi School of Engineering and holds the inaugural Cornelius J. Pings Chair in Biomedical Sciences.

Humayun's most recognized innovation is his co-creation of the Argus II (manufactured by Second Sight Medical Products Inc.), the only FDA approved retinal prosthesis system that allows those with certain blinding diseases to regain some useful vision. Earlier this year, Humayun received the prestigious National Medal of Technology and Innovation, the nation's highest award for technology achievement, from President Barack Obama.

Humayun will be one of 582 NAI Fellows who represent universities, government agencies and non-profit research institutions. He is among eight NAI Fellows from USC, including 2016 inductee Shri Narayanan, professor of electrical engineering and computer science in the USC Viterbi School of Engineering's Ming Hsieh Department of Electrical Engineering. Narayanan also holds secondary appointments as professor of linguistics at the USC Dornsife College of Letters, Arts and Sciences and professor of pediatrics at Keck School of Medicine of USC. Humayun also joins USC President C. L. Max Nikias who became a NAI Fellow in 2012.

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"Mark Humayun is such a deserving recipient of this fellowship from the National Academy of Inventors," said C. L. Max Nikias, president of the University of Southern California. "In advancing technology to change medicine, Professor Humayun does not see boundaries, but rather possibilities. He exemplifies American ingenuity and has dedicated his career to preventing and reversing blindness through technological innovation."

"I am honored to be selected a Fellow with the National Academy of Inventors," said Humayun. "My passion has been to merge the power of technology and engineering to create medical breakthroughs. Often these innovations, such as the Argus II which took more than 20 years from concept to FDA approval, come after long periods of research and development and through collaborating with many talented students and colleagues but the results in changing patient lives is worth the wait and hard work. The environment at USC allows me to surround myself with very talented individuals who help make these ideas a reality."

"Mark embodies the spirit of innovation and dedication at the USC Roski Eye Institute by pushing the envelope to create biomedical solutions that will make a transformative difference in people's lives and we congratulate him on this latest honor," said Rohit Varma, MD, MPH, dean of the Keck School of Medicine of USC and director of the USC Roski Eye Institute. "Restoring vision and preventing blindness is Mark's personal 'moonshot' and a mission all the physicians and scientists at USC Roski Eye Institute share. We're proud to have him conducting his research, creating his technological breakthroughs and treating patients at USC and also benefiting patients worldwide."

About Argus II

The Argus II, also known as the "bionic eye," is a retinal implant manufactured by Second Sight Medical Products Inc. that has received approval from the FDA in the U.S. in 2013 to restore sight to patients who are blind from retinitis pigmentosa (RP is an inherited retinal degeneration which leads to loss of the photoreceptors). Ever since being the first U.S. clinical site, USC Roski Eye Institute remains a center of excellence for patients receiving this implant. Humayun has trained ophthalmologic surgeons worldwide in implanting the Argus device that has been in use in Europe since 2011 and was also recently approved for implantation in Australia and Canada.

A true miracle solution for those who are blind from RP, the Argus II system uses a camera mounted on special glasses that sends a signal to an electronic receiver with electrodes that are implanted in and around the eye. The electrodes send signals to the retina that stimulate the retina and then these retinal impulses travel through the optic nerve to the brain where they are interpreted as images.

About the USC Roski Eye Institute

The USC Roski Eye Institute, part of the Keck Medicine of USC university-based medical enterprise, has been a leader in scientific research and innovative clinical treatments for more than 40 years. Among the top two funded academic-based medical centers by the National Eye Institute (NEI) research grants and ranked in the Top 10 ophthalmology programs in *U.S. News & World Report*'s annual "Best Hospitals" issue for more than 20 years, the USC Roski Eye Institute is headquartered in Los Angeles with clinics in Arcadia, Beverly Hills and Pasadena.

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Patients from across the country come to see the USC Roski Eye Institute experts who treat a comprehensive array of eye diseases across the life spectrum from infants to aging seniors. The USC Roski Eye Institute is known for its scientific research and clinical innovation including: creation of the Argus retinal prosthesis implant (also known as the "bionic eye") for retinitis pigmentosa patients; stem cell therapies for those who have age-related macular degeneration; discovery of the gene that is the cause of the most common eye cancer in children; treatment for eye infections for AIDS patients; inventors of the most widely used glaucoma implant in the world; pioneers of a device for long-term intraocular drug delivery; and the first to use telesurgery to train eye doctors in developing countries. For more information visit: USCEye.org.

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