

# Grant to fund 'pioneering' brain-computer interface technology

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Efforts to advance technology to aid people who have lost communication and movement abilities are getting support from an Arizona Biomedical Research Commission grant for a project combining resources and expertise at Arizona State University and the Children's Neuroscience Institute at Phoenix Children's Hospital.

Dr. David Adelson leads a research team at the institute working on development of "[brain-computer interface](#)" technology. The team is collaborating with Stephen Helms Tillery, an assistant professor in the School of Biological and Health Systems Engineering, one of ASU's Ira A. Fulton Schools of Engineering.

The three-year grant of almost \$469,000 will help fund refinement of an interface system designed to help children and adults who are unable to perform typical activities such as dressing, walking, talking, typing or writing due to severe [brain disorders](#) caused by stroke, severe [cerebral palsy](#), amyotrophic [lateral sclerosis](#) – also known as ALS or "Lou Gehrig's Disease" – spinal cord injury or similar disorders.

"We have been working on these interfaces in the laboratory for a decade, and it's exciting to finally see our work moving into a clinical setting through the collaboration with Phoenix Children's Hospital," Helms Tillery says.

The interface system will allow people to use their own brain signals to communicate or interact indirectly with their environment by controlling

a computer.

With improved device technologies and interactive software, people would be able to communicate and interact by using computers to control motorized carts, wheelchairs, artificial limbs, communication devices, or even robots. The technologies may also offer the possibility of communication through use of the Internet.

"This is truly a pioneering technology," Adelson said, "and we expect that this type of collaborative research in Phoenix between the Children's Neuroscience Institute and ASU will continue to spur further potential innovations and associative technologies in the future."

Provided by Arizona State University

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