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New Jersey Health Foundation Awards \$50,000 Innovation Grant to Improve Treatment for Children with Vision Dysfunction

New Brunswick, NJ – New Jersey Health Foundation (NJHF) has awarded a \$50,000 Innovation Grant to Tara Alvarez, PhD, to help create a 3-D virtual reality therapy game for children suffering with binocular vision dysfunction, announced James M. Golubieski, president.

Dr. Alvarez is a professor of biomedical engineering at New Jersey Institute of Technology (NJIT).

Binocular Vision Dysfunction (BVD), which is frequently under diagnosed, is a condition in which a person's eyes can't align to focus on a close target, causing significant eye strain as the muscles constantly struggle to re-align. This eye strain often results in dizziness, headaches, disorientation, anxiety or difficulty reading. A person with BVD cannot read or look at a computer screen for more than twenty minutes without getting headaches or blurred and double vision.

Dr. Alvarez is seeking to advance the development of a device and protocol that is therapeutically effective for patients between the ages of eight – 18 and is lower cost than what is currently available.

Current treatments for the disorder are very expensive and often ineffective due to non-compliance. Using the game format will make participation fun for children affected by BVD and thus, will encourage compliance to increase treatment effectiveness.

“After meeting with Dr. Alvarez, we began to understand that the binocular vision dysfunction she is addressing can have far-reaching learning repercussions for children with this disorder,” explained George F. Heinrich, M.D., vice chair and CEO of New Jersey Health Foundation. “We were drawn to the idea that Dr. Alvarez is employing a novel way for a child to participate in his or her own treatment, which could prove to be very effective when treating BVD.”

Dr. Alvarez explained that visual discomfort may lead to a child being disruptive in class or developing behavioral issues in school because it hurts for them to read for longer than about 20 minutes.

“One challenge for children with vision dysfunction is that the visual systems they experience are the only visual experience they know,” explained Dr. Alvarez. “So while they have significant discomfort while reading or doing close-up work, they may think this is normal because they do not know what it is like to read without discomfort. If a child becomes frustrated with reading at an early age, he or she may be less engaged in learning and not be motivated to establish good study habits.”

The Innovation Grant to Dr. Alvarez was the first awarded by New Jersey Health Foundation to NJIT since the organizations developed its formal relationship in the spring of this year.

“We are excited to have the support of the New Jersey Health Foundation, which will help us advance our efforts to commercialize Dr. Alvarez's vision therapy technology,” said Judith Sheft, associate vice president for technology and enterprise development at NJIT's New Jersey Innovation Institute. “This project is the first of what we anticipate will be many collaborations in which NJHF and NJIT leverage our respective capabilities to bring game-changing technologies to the market.”

For more information about this project or New Jersey Health Foundation Innovation Grants, contact Mike Wiley, NJHF, at (908) 731-6612 or mwiley@njhf.org.

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About New Jersey Health Foundation

[New Jersey Health Foundation](#) is a not-for-profit corporation that supports biomedical research and health-related education programs in New Jersey through its Grants Program and its affiliate, [Foundation Venture Capital Group](#) which makes private equity investments in health-related start-up companies in New Jersey headed toward commercialization.

About New Jersey Institute of Technology

One of the nation's leading public technological universities, New Jersey Institute of Technology (NJIT) is a top-tier research university that prepares students to become leaders in the technology-dependent economy of the 21st century. NJIT's multidisciplinary curriculum and computing-intensive approach to education provide technological proficiency, business acumen and leadership skills. With an enrollment of 11,400 graduate and undergraduate students, NJIT offers small-campus intimacy with the resources of a major public research university. NJIT is a global leader in such fields as solar research, nanotechnology, resilient design, tissue engineering, and cybersecurity, in addition to others. NJIT ranks 5th among U.S. polytechnic universities in research expenditures, topping \$126 million, and is among the top 1 percent of public colleges and universities in return on educational investment, according to PayScale.com. NJIT has a \$1.74 billion annual economic impact on the State of New Jersey.