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Winners of the 2024 TTRD Awards [1]

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This past spring, the Coleman Institute released a request for proposals for their second round of Technology Translational Research and Development (TTRD) Awards. The goal of the TTRD Awards is to catalyze translational science resulting in products or services reaching the hands of consumers. The award funds researchers and developers from the four CU campuses to develop and disseminate technology products that directly aid people living with cognitive disabilities. Phase I (early-stage development) awardees receive $50,000 and phase II (late-stage development) awardees receive $100,000.

After careful review of our impressive applicants, we are proud to announce two recipients for this year's award!

First, is a CU Anschutz phase II project led by Cristin Welle, PhD, and Dan Kramer, PhD, co-PI, titled "Creating a Cognitive Neuroprosthesis for Enhanced Executive Function." The primary objective of the project is to pioneer a cognitive neuroprosthesis aimed at improving executive function (EF). They hope to decode neural biomarkers for EF dysfunction and apply real-time neurostimulation to improve EF. To achieve their goal, they will be combining two existing, highly unique, and advanced programs at the University of Colorado Anschutz Medical Campus – brain computer interface and transcutaneous auricular vagus nerve stimulation. Ultimately, they plan to create a "smart stimulation" therapeutic system leading to the first treatment system based on neural biomarkers to improve EF in people with Parkinson's Disease.

Second, is a phase I cross-campus (CU Boulder and CU Anschutz) project led by Danna Gurari, PhD, titled "Vision Canceling Technologies for Individuals with Traumatic Brain Injuries." Dr. Gurari is joined by co-PI Jeffrey Hebert, PhD, and lead researcher Jarek Reynolds, PhD student. As they explain, humans continually collect large amounts of visual sensory data from their environment. They must accurately and efficiently process these incoming visual signals to safely participate in daily life activities. However, this processing ability is impaired for many people with traumatic brain injuries (TBIs). Their goal is to design and develop an AI-based technology that helps visual processing by filtering out visual "noise," allowing them to focus on the task at hand. The goal is to empower TBI survivors to live more independent and connected lives.

Both projects have the potential to help not just their target populations (people with Parkinson's Disease and TBIs) but also a wider world of other cognitive disabilities. We are confident both teams will accomplish their goals, and we wish them the best!

In addition to congratulating our new recipients, we also want to recognize last year's 2023 recipients and their excellent work. Three projects were funded - PointItOut – Bing Han (PI), Jim Sandstrum, Caroline Clevenger, and Kendall Hunter; SkyWalkerTM – Petra Conaway

(PI), Dana Carpenter, and Dan Griner; and the vibrotactile stimulation team – Mazen Al Borno (PI), Peter Teale, Brice McConnell, and Zhengxiong Li. Thank you all for helping advance our mission to promote the quality of life of people with cognitive disabilities and their caregivers by catalyzing advances in technology.

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