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Technology Translational Research and Development Awards [1]

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Members of the three winning teams of the TTRD Awards (from left to right): Kendall Hunter, Bing Han, Caroline Clevenger, Jim Sandstrum, Petra Conaway, Dana Carpenter, Peter Theale, Brice McConnell, Mazen Al Borno, Zhengxiong Li. Not pictured: Dan Griner

This past spring, the Coleman Institute for Cognitive Disabilities announced a request for proposals from CU faculty members for the Technology Translational Research and Development (TTRD) Awards. The TTRD Awards were developed to support the Coleman Institute's mission to catalyze and integrate advances in technology to promote the quality of life of people with cognitive disabilities and their caregivers. The TTRD Awards advance the institute's support of translational science resulting in products or services reaching the hands of consumers. The goal of the awards is to fund researchers to develop and disseminate technology products to directly aid persons living with cognitive disabilities.

Two levels of funding were available for application - Phase I grants of $50,000 for early-stage developments and Phase II grants of $100,000 for late-stage development. The intended outcome of both phases is to progress the development of tangible tools, resources, hardware, or software, and/or other technology strategies for improving quality of life for persons living with cognitive disabilities across their lifespan. Proposals driven by user-inspired research and with a clear path of translation to the marketplace were funded. Recipients have the next 12 months to use the funding.

We are thrilled to announce three proposals were awarded funding. The winning teams are: 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.

To celebrate the winners of the TTRD Awards, a luncheon was held at the Denver Country Club in April. The luncheon guestlist had multiple honorary attendees including three current/former CU Presidents - Todd Saliman, current President, Bruce Benson, former (and the longest ever serving) President, along with his wife Marcy, and Elizabeth (Betsy) Hoffman, former President (who attended the luncheon remotely). Attending Coleman Institute leadership included Cathy Bodine, Executive Director, Enid Ablowitz, former Associate Director, and advisory board members Michael Lightner, CU Vice President for Academic Affairs, and Clayton Lewis, Professor, Department of Information Science, CU Boulder. During the luncheon, the TTRD Awards' winning teams were recognized and gifted a celebratory plaque.

The luncheon was also attended by Claudia Coleman, Co-Founder of the Coleman Institute. To honor her 20+ years of service, Claudia was surprised with a book detailing her immense contribution to the Coleman Institute. Her generous spirit and forward-thinking nature have been instrumental to the institute's activities. Claudia and her husband, Bill Coleman, co-founded the Coleman Institute in 2001, and their shared vision continues to be the driving force behind the goals of the institute.



TTRD Awards Luncheon (from left to right): Todd Saliman, CU President, presenting Claudia Coleman, Co-Founder of Coleman Institute, with an honorary book detailing Coleman's accomplishments



TTRD Awards Luncheon Attendees (from left to right): Bruce Benson, former CU President, Michael Lightner, Advisory Board Member, Coleman Institute, Claudia Coleman, Co-Founder, Coleman Institute, and Marcy Benson



TTRD Awards Luncheon Speaker: Todd Saliman, CU President



TTRD Awards Luncheon Speaker: Michael Lightner, Advisory Board Member of Coleman Institute and CU Vice President for Academic Affairs



TTRD Awards Luncheon Attendees: Enid Ablowitz, former Associate Director, Coleman Institute, Tom Flaig, Vice Chancellor for Research, CU Anschutz, and Phillip DeLeon, Associate Vice Chancellor for Research and Chief Research Officer,

PointItOut: Grocery Shopping Independence for Intellectual and Developmental Disabilities via Augmented Reality-enabled Destination Visualization (Phase II)



PointItOut team (from left to right): Claudia Coleman (Co-Founder, Coleman Institute), Jim Sandstrum, Bing Han (PI), Caroline Clevenger, Kendall Hunter, Cathy Bodine (Executive Director, Coleman Institute)

PointItOut's research objective is to understand if visual cues of point locations in open-floor-plan retail spaces, such as grocery stores, using an augmented reality application have the potential to extend the independence of individuals with intellectual and developmental disabilities (IDD) during routine errands like grocery shopping. The goal of this project is to provide greater independence to people with IDD performing activities of daily living.

The PointItOut team is led by Bing Han, PhD, Assistant Professor, Department of Civil Engineering, CU Denver. The other team members, all also from CU Denver, include Jim Sandstrum, MA, SLP, Professional Services Coordinator, Center for Innovative Design and Engineering, Caroline Clevenger, PhD, Professor, Department of Civil Engineering, and Kendall Hunter, PhD, Department of Bioengineering.

SkyWalker^{TM}: Innovative and Stylish Mobility Devices to Support Adults living with Dementia (Phase II)



SkyWalker team (from left to right): Claudia Coleman (Co-Founder, Coleman Institute), Petra Conaway (PI), Dana Carpenter, Cathy Bodine (Executive Director, Coleman Institute), Meryl Unger (Mobella industry collaborator). Not pictured: Dan Griner

This team is developing the SkyWalker^{TM}, a stylish, tech-enabled mobility device to support adults living with dementia. In addition to cognitive impairments, people with dementia are more likely to experience falls as the disease progresses, causing problems with coordination and balance. Moreover, regular exercise and good mobility has been shown to slow the progression of dementia. For these reasons, mobility support is key for adults living with dementia. The team plans to use TTRD funds to conduct focus group interviews, build a refined prototype, and evaluate usability.

The SkyWalker^{TM} team is led by Petra Conaway, PT, DPT, Research Instructor, CIDE, CU Denver. The other team members include Dana Carpenter, PhD, Associate Professor, Department of Mechanical Engineering, CU Denver, and Dan Griner, Director of Smart Futures Lab, Design, Innovation, and Strategy, CU Denver. Meryl Unger, Founder, Mobella, will serve as an industry collaborator.

Team Three: Feasibility Trial of Vibrotactile Stimulation for Alzheimer's Disease (Phase I)



Vibrotactile Team (from left to right): Claudia Coleman (Co-Founder, Coleman Institute), Peter Teale, Brice McConnell, Mazen Al Borno (PI), Cathy Bodine (Executive Director, Coleman Institute), Zhengxiong Li

Studies have shown that sensory stimulation reduces symptoms associated with Alzheimer's Disease (AD). The team plans to develop a noninvasive neuromodulation therapy for the treatment of AD symptoms based on sensory stimulation of the hand. They plan to use the TTRD funding to collect pilot data demonstrating the feasibility of vibrotactile stimulation for AD.

The team is led by Mazen Al Borno, PhD, Assistant Professor, Department of Computer Science and Engineering, CU Denver. The other team members include Brice McConnell, MD, PhD, Assistant Professor, Neurology, CU Anschutz, Peter Teale, Clinical Instructor, Neurology, CU Anschutz, and Zhengxiong Li, PhD, Department of Computer Science and Engineering, CU Denver.

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