



## **ENVISION ANNOUNCES A CALL FOR RESEARCH FELLOW APPLICATIONS**

### **A Fellowship Project Will Be Selected To Investigate BVI Navigation Training Technology**

The Gigi and Carl Allen Envision Research Institute is pleased to announce the exciting opportunity to participate in our research fellowship program. We have a fellowship position in BVI Navigation Training Technology that is available due to the generous funding support from Greg & Marilena Lucier Family.

The Envision Research Institute (ERI) conducts research to improve the quality of life and independence for people of all ages who are blind and visually impaired (BVI). Significant gaps still exist in our scientific understanding of the functional implications of vision loss. The ERI seeks to fill these gaps by carrying out applied and innovative research in BVI, with the goal of removing functional barriers for these individuals. Therefore, the ERI dedicates our research to investigating the functional implications of vision loss, access to interventions, optimizing rehabilitation therapies, and developing assistive technology. The ERI fellowship program is an integral part of ERI's mission and research program.

ERI is uniquely positioned to investigate these needs and gaps in BVI research given our resources as well as our longstanding and direct contact with BVI populations. Established in 2014, the ERI seeks to fill the significant gaps that exist in our scientific understanding of the functional implications of vision loss. By conducting innovative applied research, fellows explore new ways to remove barriers to an optimal quality of life for individuals who are BVI. Researchers are encouraged to collaborate with Envision programs that serve those who are BVI, including: 1) the Envision University (including national conferences for rehabilitation specialists and researchers as well as grand rounds); and 2) the Bicknell Envision Vision Rehabilitation Center (including Orientation & Mobility and Occupational Therapy professionals); 3) the William L. Hudson BVI Workforce Innovation Center; 4) the Cathy G. Hudson Envision Child Development Center; and 5) Support programs for individuals of all ages, such as adult support groups, art and music programs, and Level Up technology training. This unique environment fosters communication and collaboration, allowing researchers to translate their knowledge into applications that can directly impact individuals who are BVI. Researchers also gain inspiration and valuable insight into impactful and meaningful issues by interacting with BVI individuals and the professionals who serve them.

Envision Fellows are among the best vision rehabilitation investigators; innovative and out to change the world for BVI individuals. They take their diverse educational backgrounds and apply them creatively to improve the quality of life and independence for BVI people through their research endeavors. Fellows have come from the fields of vision science, optometry, engineering, human factors, psychology and law for example. Therefore, interest in BVI research is more important than previous training in BVI research.

[www.envisionus.com](http://www.envisionus.com) | [www.envisionus.com/research](http://www.envisionus.com/research)

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The Greg & Marilena Lucier Family Fellow would be the 13<sup>th</sup> fellow (in seven years) to investigate important issues for BVI individuals. Please go to the following link to see more information about the people and research activities of the ERI, past and current [[www.research.envisionus.com/Projects](http://www.research.envisionus.com/Projects)]. We are currently excited about the Technology for BVI Navigation Training research and development area. Navigation Training Technology includes many diverse research areas and a potential fellow can propose any aspect for the fellowship research.

Wayfinding and Mobility (Navigation) remains a challenge for people who are BVI. For outdoor environments, recent advances in global positioning systems (GPS) and mapping technologies provide simple to use means for wayfinding but the mobility aspects are still complicated. For indoor environments, wayfinding and mobility both remain a challenge for those who are BVI because existing technologies do not apply for indoor environments. The common problem of evaluating and training optimal mobility in both outdoor and indoor environments can be enhanced with specialized technology. Real time monitoring of body motion (e.g., body sensors for center of gravity position for fall risk and head movement for scanning abilities) combined with real time monitoring of body movement through space (e.g., LIDAR for obstacle avoidance) can provide quantified information in complex environments such as grocery stores, airports, entertainment venues, hotels and large office buildings or other workplace environments. Currently trainers rely on their visual observation of people who are BVI to assess and train wayfinding and mobility. There is a need to provide quantified navigation information from enhanced navigation training using technology that incorporates proven accessibility and utilization guidelines to provide better navigation abilities for individuals who are BVI. Data about how people are performing various navigation activities of daily living (ADL) tasks can be unobtrusively and continuously collected to understand where they are facing challenges to develop navigation interventions. Once interventions are proposed and applied, the same technology can evaluate the effectiveness of interventions implemented (evidence based practice) and guide further refinements and improvements. With such capabilities, navigation rehabilitation can be more effectively applied than the current state of the art; impacting most, if not all, BVI individuals with navigation challenges.

The Fellow must have received, by the start of their Fellowship, a PhD, MD, OD, OTD, DPT, PsyD, MSW, MPH or similar professional degree at an accredited institution. Low vision and blindness research is multi- and inter-disciplinary, thus the topic of the professional degree is less important than the educational and professional experiences that can support the proposed fellowship research. ERI Fellowships are funded for up to two years and some fellows continue as sponsored investigators. Fellows are encouraged to have external mentors to benefit their training and research activity. Fellows may travel to receive training at an external mentor's institute. Fellowship stipends are consistent with NIH guidelines with additional funding provided for health benefits and professional travel expenses.

Interested candidates should submit to [ron.schuchard@envisionus.com](mailto:ron.schuchard@envisionus.com) a CV, two letters of reference and a Letter of Intent (with not more than 1500 words) that contains the following:

- Description of your academic and research background as it relates to BVI research
- Description of a BVI Navigation Training Technology research project you are interested in pursuing at ERI
- Proposed fellowship start date (preference for fellowships that start early in 2023)
- If desired: Proposed external mentor(s) and what additional training would be provided

Applications are being reviewed as received for preference given to early submissions.

If you have questions about this fellowship opportunity, please email Dr. Ronald Schuchard, Executive Director, at [ron.schuchard@envisionus.com](mailto:ron.schuchard@envisionus.com).