

Research Project of the Quarter

Talking Braille

Talking Braille will make Braille signs more useful and accessible to the majority of veterans with vision loss. Finding and obtaining information from Braille signs is not easy when a person cannot see the sign. To know what direction to walk when finding their way through large buildings like the Atlanta VA Medical Center, these veterans must be able to obtain information and locate specific places *from a distance*. To make this possible, we have designed a special badge that can “read” Talking Braille signs



from a distance of 20 feet and use the information from those signs to guide the person to a specific place. Talking Braille signs wirelessly transmit information that is received by the badge. The badge “speaks” information to the person through a low-profile headset that rests behind the person’s ears rather than covering them. This special headset lets the person hear messages without disturbing anyone else and without preventing the person from hearing what is going on around them. When entering a building, the person is directed by their badge to a kiosk. They use this kiosk to select a destination. The kiosk computes a route of Talking Sign way-points leading to their destination. The badge then directs the person from one Talking Sign to the next along the route to their destination. A prototype of this system is now being developed. When it is completed, people with vision loss will be recruited to test this new system in real life situations. *For more information about this project, contact Mr. Ross at 404-321-6111, ext. 16817.*

About the Researcher...

David A. Ross, M.S.E.E., M.Ed.



Mr. Ross is a Rehabilitation Research Engineer with 22 years of experience, most of which were devoted to the design of assistive technology for veterans experiencing vision loss. In addition to Talking Braille, he is developing a special egress system to help veterans with vision loss find accessible exits and get out of buildings quickly in emergencies. He is also developing an integrated wayfinding system that uses cell phones to help the person find their way around outdoors as well as indoors. In addition, Mr. Ross collaborates with professors at Emory University, the Georgia Institute of Technology, University of Georgia and Georgia State University, and mentors Ph.D. students who wish to conduct research in rehabilitation engineering. Finally, Mr. Ross is beginning a new field of research to develop Virtual Reality training systems to create a “safe space” where veterans can practice and gain confidence in their skills before venturing out into the dangers of the real world.

Research Volunteer Opportunities

Have you been diagnosed with Retinitis Pigmentosa (RP)?

Are you legally blind?

The Atlanta VA Medical Center Rehab R&D Center and Emory University are looking for volunteers to participate in a study of visual function and everyday function in people with Retinitis Pigmentosa.

- We are using several measures to study your vision & balance
- This study could take up to 2 years, 4 times/year
- You will be paid \$10/hour for your participation

For information contact:

Adrienne Lloyd at 404-321-6111, ext. 16822
Rehab Research & Development Center, Atlanta VAMC

Is your vision 20/200 or worse, have you been diagnosed as legally blind, or do you have a hearing loss that keeps you from hearing well?

Are you 60 years or older?

We are studying how well people with impaired vision and/or impaired hearing are able to manage in their daily lives. This study requires 2 visits to the Atlanta VA Medical Center.

You will be paid \$10/hour for your participation.

For information contact:

Adrienne Lloyd at 404-321-6111, ext 16822
Rehab Research & Development Center, Atlanta VAMC

Visual Rehabilitation Study Volunteers Wanted

Funded by the National Institute of Health for those with loss of their visual field: hemianopia (problems with your vision or blindness with half of your sight).

- Pencil & paper test on drawings and words (2 tests)
- Non-invasive Functional Magnetic Resonance Imaging (fMRI) study on visual tasks 1 hour.
- Visual functional training 15-20 sessions.
- Monetary Compensation: \$220

*Transportation is available in some cases, please inquire.

For information contact:

Dr. Yonghua Tai @ 404-321-6111, ext 15396
Rehab R&D Center, Atlanta VAMC

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Rehabilitation Research & Development Center

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Important Dates During ...

- **July**
UV Safety Month
- **August**
Eye Injury Prevention Month
- **September**
Healthy Aging Month
National Rehabilitation Week (18-24)
Health and Fitness Day (24)

Good humor is the health of the soul.
Lord Chesterfield

