

ATLANTA VA REHABILITATION RESEARCH & DEVELOPMENT



FALL 2021

CENTER FOR VISUAL AND NEUROCOGNITIVE REHABILITATION

A Word from Our Director



Dr. A.M. Barrett

CVNR Executive Director

Dr. Barrett is a clinician-scientist, with special expertise in both cognitive neurology and neurorehabilitation.

Welcome! When I came to the CVNR in October 2019 from New Jersey, where I directed programs in stroke rehabilitation and stroke rehabilitation research, I took the role of Executive Director of the CVNR and looked forward to big things. It was a big shock for us all (including me!) when we locked

down in 2020, interrupted research, and changed our daily lives as well as professional lives. 2020 certainly did not pan out the way we expected. We took stock during this time of what the CVNR has accomplished in the last five years, and we projected what we would like to do between now and 2027, while we waited for the opportunity to reopen and resume pre-pandemic operations. During our review of 2016-2021, it was very satisfying to observe how our cutting-edge research findings have been leading to improved health outcomes for Veterans and their families. For example, by providing Aging Sensitivity Training to new Atlanta VA employees during this time, the CVNR educated over a thousand Veterans who received care here in Atlanta about special challenges facing older veterans. As we move into summer, 2021, I am feeling very confident that the VA as well as our research Center, is on strong footing. CVNR is on the move and becoming better than

ever! New investigators and staff are joining us, we have new funding to report, and reopening enrollment to our research projects has proceeded smoothly. Our basic science labs are in operation and generating new and exciting tools to advance Veteran health. Our plans for 2022-2027 created the foundation for application for another cycle of funding! The CVNR was established in 1983 and has successfully competed for 5-year renewals since 2000. The continued support of the Department of Veteran Affairs ensures that the important work of developing improved therapies

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New in this Issue

Eyes Front!

A series focusing major diseases involving vision and the eye.

First up: Cataracts

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U.S. Department of Veterans Affairs

Atlanta VA Health Care System

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and treatments for Veteran visual and neurocognitive rehabilitation will continue in Atlanta. We look forward to addressing invisible disabilities affecting vision, thinking, and everyday life and function, to sustain excellent quality of life in Veterans and their loved ones, and serve the VA

Mission. This year, our inaugural "Community Advisory Panel" meets, composed of Veterans, Atlanta VA staff, and Community members. This group will help us gain a full perspective on our work, so it will be even more relevant, serve the community's needs, and align with new

opportunities. Please enjoy our Spring/Summer newsletter for the CVNR which details new research and implementation projects, highlights staff and faculty and provides some helpful tips about vision. I am always available for questions. We are glad you're part of our community to serve!

Junior Investigator Spotlight

Katie Bales, PhD is a Georgia native from the small town of Hiram. She attended the University of Georgia for her bachelor's degree (Go Dawgs!), double majoring in Biology and Psychology, followed by postbaccalaureate research studies at Kennesaw State University. She earned her PhD at the University of Alabama at Birmingham in Vision Science in 2018. Her dissertation focused on retinal protein trafficking and animal models of ciliopathic diseases. For Post-doc research endeavors, she aimed to gain translational and clinical research experience. Fortunately, she joined the labs of Drs. Machel Pardue and Jeffrey Boatright at the Atlanta VA and Emory University. Now her research investigates the molecular mechanisms underlying exercise-induced retinal neuroprotection in patients with age-related macular degeneration as well as animal models of retinal disease. Vision research was the field Katie kept finding herself drawn to. She

finds every aspect of this field fascinating. At the end of the day, it is the simple notion that our work and research has the ability to improve veteran's quality of life not only for them but also their families, one of her main reasons to research this area.

There is nothing more exciting to Katie than witnessing firsthand how discoveries at the bench are implemented in the clinic. For her, that experience will never get old. She enjoys working with veterans because they are such a resilient group of people and have a strong connection with one another. It is truly inspiring to be able to interact with people who have dedicated their lives to serving our country. That makes the work that much more important. It is a bonus that they also offer great life advice.

Her future research aims to further investigate the neuroinflammatory response associated with neuroprotective methods for retinal degenerations as well as neurodegenerative diseases. The research program she is building

will characterize cellular and molecular level responses to treatment, investigate cellular morphology, behavior and cellular expression profiles to develop the best methods of treatment.



When not in the laboratory, she spends time with her fiancé, their dogs Brody and Charlotte, and her family. She enjoys running, gardening and working on her house.

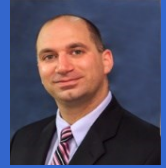
Eyes Front!



Dr. Andrew Feola



Dr. Katharina Echt



Dr. Michael Dattilo

Vision (sight) is one of our main senses. Healthy vision helps Veterans maintain a better quality of life. Routine eye examinations are necessary to ensure good eye health and early detection of potentially vision-threatening (blinding) diseases.

During eye exams your doctor will assess if you need new or updated prescription eyeglasses. In addition, your cornea (the clear surface of your eye), the pressure inside of your eye, the lens, and the back of your eye (retina) will be examined. Your eyes may be dilated to facilitate the eye exam. Some diseases/conditions that are checked during an eye exam are cataracts, glaucoma, macular degeneration, corneal diseases, diabetic retinopathy and optic nerve swelling. In the “Eyes Front!” series, we will discuss some major diseases involving vision and the eye and how they are treated.

We start with Cataracts, a leading cause of reversible blindness globally and a common condition for older adults in the US.

How often should I get an eye exam?

If you are over 50 years of age you should have an eye exam every 1-3 years. Check with your insurance company about coverage of routine eye exams.



What are Cataracts?

Cataracts mostly affect the lens of the eye. Normally light enters the eye through the cornea and is focused onto the retina by your lens, which allows us to see clearly. Cataracts develop gradually from clouding of the lens and prevents light from focusing on the retina. Without this focused light what we see becomes blurry and you may become more sensitive to glare and have difficulty seeing at night.

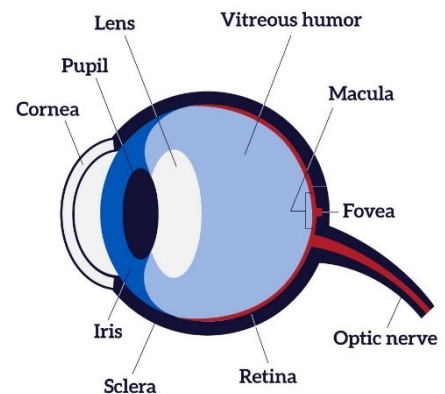
Normal Vision



Cataract Vision



The Human Eye



During an eye exam your doctor (ophthalmologist or optometrist) will examine your lens using special instruments and determine whether you have a cataract. If the cataract is small and not affecting your vision no treatment may be necessary. Cataracts that cause poor vision can be removed with surgery and some doctors may recommend treatment with an artificial lens to help improve vision.

What causes Cataracts?

- Aging
- Family history of cataracts
- Smoking or exposure to toxins like lead
- Overexposure to sunlight
- Diabetes
- Certain medications (e.g., steroids)

What can I do?

- Avoid smoking
- Wear UV protective eyewear when outside
- Eat fruits and vegetables (for anti-oxidants)
- Consult with your physician

For more information about vision, eye health and disease please visit: <http://nei.nih.gov/health>



Next segment: Glaucoma - a leading cause of irreversible blindness in the world.

New Insight: The Community Advisory Panel

The CVNR is excited to announce the formation of its **Community Advisory Panel (CAP)**. The CAP's inaugural meeting was held on April 28, 2021 and included six community members and nine representatives from the CVNR Outreach and Education Committee. The CAP theme is "Engage, Influence, and Direct". It was designed as a means to include community stakeholders in CVNR activities. CAP members will have the opportunity to provide advice, guidance, and feedback on the direction and effectiveness of the CVNR research programs. Members will also be included in initiatives to increase community interest and awareness of the CVNR and its research. Our initial CAP members are Jaclyn Dorsey, Jerry Feldman, Sharon Gaffney, Marty McDonald, Charles



Singleton, and John Sterling. We anticipate expanding the CAP over time to 12-15 members. Through CAP engagement, the CVNR hopes to continue to produce meaningful and relevant research that will help Veterans and the community at large.

Gerofit - A New Program at the Atlanta VA!



Joe Baia leading a virtual Gerofit class at the GRECC

Gerofit is an exercise program that promotes health & wellness for older Veterans. Participants in the program have demonstrated improved health, mental, physical function and well-being. Starting in Durham in 1986, Gerofit is now offered at more than 15 different VA Healthcare Systems around the country including the Atlanta VA Health System as of 2021. The Atlanta Gerofit team represents a

collaborative effort between the CVNR and Atlanta site of the Birmingham/Atlanta Geriatric Research Education and Clinical Center (GRECC) and includes Joe Nocera, Madeleine Hackney, Camille Vaughan, and Jess Kelleher. We are excited to welcome exercise physiologist, Joe Baia, to the team as of April 2021.

Gerofit is a great way for Veterans to stay active by using a variety of strength and aerobic exercises. Veterans also stay active by participating in group classes like tai chi, dancing, walking, and balance. All veterans are given a personalized exercise prescription and guidance in carrying out the exercise program is provided by trained exercise staff such as a physiologists, nurses or physical therapists.

Classes can be held in person or via a video telehealth platform. In person classes, will be held in a beautiful new VA exercise facility located at 3101 Clairmont Road, Brookhaven, GA 30329, just an 8 minute drive from the main campus Atlanta VA Medical Center.

Partner Highlight

VA**U.S. Department of Veterans Affairs**

Veterans Health Administration
Birmingham/Atlanta GRECC

The mission of the Birmingham/Atlanta Geriatric Research, Education and Clinical Center (GRECC) is to improve the capability of the VA health care delivery system to provide services that are effective and appropriate in meeting the medical, psychological, and social needs of older Veterans through research, education and innovative clinical services.

The GRECC Mission is accomplished through:

- Research focusing on mobility
- Incontinence and related disorders and palliative care
- Education of health care personnel, Veterans and their families
- Clinical demonstration programs for eligible Veterans

In 2021, jointly appointed investigators between the Atlanta site of the GRECC and CVNR include Camille

Vaughan (Atlanta site GRECC Director and CVNR Associate Director for Training), Madeleine Hackney (CVNR Outreach Committee co-Chair), Joe Nocera (CVNR Associate Director for Scientific Programs) and Keith McGregor (CVNR Investigator).

GRECC Associate Director for Education and Evaluation, Katharina Echt, has partnered with members of the CVNR Outreach Committee to conduct highly rated Whole Health First Friday events on Brain Health and Age Friendly Health Care for VA employees and Veterans. Additionally, the CVNR, GRECC and Emory Division of Geriatrics & Gerontology co-sponsor the annual Bettye Rose Connell Memorial Lecture series, which honors the legacy of GRECC and CVNR investigator, Dr. Bettye Rose Connell, whose work focused on personalized care to optimize independence in long term care settings.

GRECC Associate Director for Clinical Programs, Anna Mirk, partners with the CVNR Director, AM Barrett, on initiatives to explore new clinical demonstration programs focused on optimizing dementia care and stroke care for older Veterans.

VA ORD Research Week

The CVNR and our investigators were featured in the VA Office of Research & Development Research Week: Photos from the Field. Below is a sample of the featured research.



Dr. Maryanne Weatherill delivers prism adaption therapy to help patients recover 3D-vision after damage from a stroke. This therapy can help Veterans decrease their risk of bumping into objects, falling, and suffering other injuries after experiencing a stroke.



Dr. Keith McGregor and research coordinator **Aliyah Auerbach** utilize repetitive transcranial magnetic stimulation (rTMS) to alleviate chronic headache, muscle pain, and joint pain in Veterans who experience Gulf War Syndrome.



Exercise physiologists, **Kevin Mammino** and **Cydney Goodwin-Hamel**, lead participants in a strength and conditioning program to help keep elderly veterans active and improve their physical fitness.

More can be found at <https://www.research.va.gov/researchweek/>

Newly Funded Collaboration

Machelle Pardue, PhD, Joe Nocera, PhD, Jeff Boatright, PhD, and Katie Bales, PhD received 3 years of funding from The Katz Foundation to support work investigating whether simple exercise is beneficial to patients who have Age-Related Macular Degeneration (AMD), a leading cause of blindness in our aging population. This collaborative project will test whether spin training (stationary bicycling) slows vision loss in subjects with AMD.

Designed to occur at both the Atlanta VA and participants' homes, this study not only encourages veterans to exercise to benefit their vision but will ultimately improve their overall health as well. It also promotes a sense of community while veterans can be in the comfort of their own home. Implementation of this study will include CVNR members Kevin Mammino and Monica Coulter.

Congratulations to the whole team!



Dr. Pardue



Dr. Nocera



Dr. Boatright



Dr. Bales

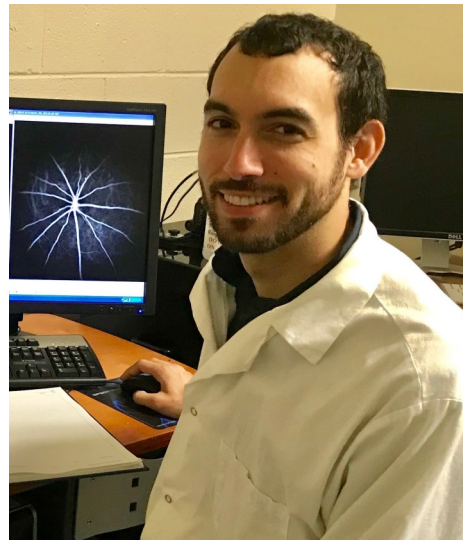
New Funding

Andrew Feola, PhD received his first Ro1 award from the NIH National Eye Institute for his work at Georgia Institute of Technology. Dr. Feola's project "Impact of Menopause on the Aqueous Outflow Pathway" will assess pressure and biomechanical properties within the eye which are risk factors for developing glaucoma. Glaucoma is the largest cause of irreversible blindness in the world and occurs at a higher rate in Veterans compared to the normal population. Roughly 60% of glaucoma patients are

women and recent works highlight that a woman's age at menopause – a major event in women's life – is associated with developing this disease. Dr. Feola's work will examine if there are differences between male and females across ages and how menopause is related to factors associated with glaucoma. This study builds on his current work within the VA and CVNR which examines the impact of menopause on visual function in experimental glaucoma. Together, these studies examine glaucoma as a major women's health issue and

hope to improve our understand of how age and menopause relate to this common cause of blindness.

Congratulations Dr. Feola!



A Fond Farewell



A member of the CVNR since 2012, **Keith McGregor, PhD** is a VA Merit Scientist. He is the Director of the Transcranial Stimulation Lab at the CVNR and Director of Telerehabilitation. Dr. McGregor's research has shown that lifestyle interventions can lessen or even reverse aging-related declines in behavioral performance in motor and cognitive domains. These findings have great relevance to rehabilitation programs which may be augmented by the incorporation of increased levels of physical activity.

Dr. McGregor is transferring to Birmingham GRECC to continue serving Veterans at the VA. He will also serve as the Director of Research at the University of Alabama at Birmingham (UAB) in the Department of Clinical and Diagnostic Sciences.

Christine Towler is a Certified Clinical Research Coordinator who joined the CVNR in 2014. Over the years, she has supported the research of 5 CVNR investigators, Anna Woodbury, MD, A.M. Barrett, MD, Amy Rodriguez, PhD, Keith McGregor, PhD, and Patty Griffiths, PhD in the areas of fibromyalgia, insomnia, dementia caregiving, student research education, and exercise.

Ms. Towler has transferred outside CVNR but is remaining with the VA to coordinate Dr. Jerry Kalangara's study "Sequential and Comparative Evaluation of Pain Treatment Effectiveness Response (SCEPTER)".



Nick Massa worked as a research coordinator for Dr. Erica Duncan in the Psychophysiology and Cognition Laboratory at the CVNR starting in 2016. The laboratory's overarching goal is to discover biological markers that intersect with genetics to define biological subtypes of schizophrenia and identify personalized treatment targets for these subtypes.

He also became a vital member of the CVNR Administrative Core.

Mr. Massa is currently attending medical school at Philadelphia College of Osteopathic Medicine (PCOM), Georgia campus.





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VA



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Thank you, participants!
You make every discovery possible!
For information about participating in research call us at
(404) 728-5064 or visit our website at <http://www.varrd.emory.edu/>



**The CVNR Research Registry
is Growing!!**

433

**Current
Enrollees**

295



138



89

**New
Enrollees
2020-21**