

# CVNR NEWSLETTER

CENTER for VISUAL and NEUROCOGNITIVE REHABILITATION

## What's On The Brain?



Fall 2024 Issue

[www.varrd.emory.edu](http://www.varrd.emory.edu)



VA



U.S. Department of Veterans Affairs  
Atlanta VA Health Care System

# Content

Message from the Director	1
Pain Information	2
CVNR Staff Spotlight	3
CVNR Summer Reading List	3
Inspiring Future Investigators	4
Pain Research Funding	5
Atlanta Science Festival	6
Atlanta VA Research Day 2024	8
CVNR Training Program	9
Summer 2024 DEI Students	10
In Your Own Words	11
Engage, Influence, and Direct	11
Gerofit and CVNR Partnership	12
CAP Member Recruitment	12
Active Research Studies	13



Research scientists from the Atlanta VA Center for Visual & Neurocognitive Rehabilitation (CVNR) have been featured in 3 segments of the Georgia Public Broadcasting's (GPB) new television series, *Your Fantastic Mind*. This series features compelling stories on brain-related health and wellness, including innovations in exercise and partnered dance from our Atlanta VA researchers. Congratulations to our research scientists and thank you for the work that you do to help Veterans.

Dr. Sheila Rauch's segment features her research on coping with the stresses of living in the age of COVID-19.

<https://www.youtube.com/watch?v=EpHPYVTrLe4>

Dr. Joe Nocera and Dr. Keith McGregor's segment features their research on exercise and the aging brain.

<https://www.youtube.com/watch?v=J7Oae43rQUc>

Dr. Madeleine Hackney's segment features her research on adaptive tango to help Parkinson's patients.

<https://www.youtube.com/watch?v=Abg4249LxwI>

**Coming Soon:** Dr. Anna Woodbury's segment that features chronic pain management devices.



U.S. Department of Veterans Affairs  
Atlanta VA Health Care System

# Message from the Director

## *Executive Director Dr Joe Nocera shares gratitude and appreciation*

As we close out another year and embark on the winter season, I am filled with a deep sense of gratitude for the incredible progress and dedication exhibited by everyone at the Center for Visual and Neurocognitive Rehabilitation (CVNR). This year has been both transformative and inspiring, as our team has pushed the boundaries of research and innovation for Veterans living with visual and neurocognitive impairments. We have strengthened our research initiatives, and our mission remains focused on improving the quality of life for Veterans experiencing vision loss, traumatic brain injury, stroke, cognitive challenges as well as PTSD. This work could not be achieved without our interdisciplinary approach, bringing together scientists, clinicians, therapists, and community partners.

I would like to take time to recognize the recently retired Dr. Steven L. Wolf and his many contributions to rehabilitation research. Dr. Wolf served the Department of Veterans Affairs for 4 decades as prominent figure in the field of rehabilitation research, with significant contributions that have shaped the understanding and treatment of neurological impairments, particularly in stroke recovery. His work influenced both clinical practice and rehabilitation science in profound ways. In addition, Dr. Wolf spent considerable time training

future rehabilitation research scientists (including myself) and his service to the CVNR and as Associate Director for Training for the CVNR will have a lasting impact. Thank you Dr. Wolf.

The CVNR was honored to be part of the Steven L. Wolf Research Symposium which honored and celebrated his lifelong work of leading scientific research frontiers and mentorship. This meeting brought together internationally renowned rehabilitation scientists and educators that engage in thought-provoking presentations and discussion that recognize Dr. Wolf's career and profound impact.

Looking ahead, our commitment to advancing the field through groundbreaking research is stronger than ever. Our recent projects exploring neuroplasticity in vision restoration, novel therapeutic approaches for cognitive decline, traumatic brain injury, PTSD, and the implementation of cutting-edge technology in rehabilitation have yielded exciting insights that we look forward to sharing with you in the coming months.

Thank you all for your continued support, and I look forward to the opportunities 2025 will bring to advance our mission and impact the lives of so many."



*(left to right) Dr. Joe Nocera, Dr. Steven Wolf, Dr. Madeleine Hackney, Dr. Amy Rodriguez, and Medina Bello*

# Pain Information

*Chronic pain is a common cause of daily discomfort, doctor visits, and limited functionality*

Of health difficulties faced by adults today, chronic pain is a very common cause of considerable daily discomfort, doctor visits, and limited functionality. A National Health Interview Survey from 2019 identified 20.4% of adults as dealing with chronic pain, with 7.4% experiencing high-impact chronic pain. According to the NIH, U.S. veterans experience higher rates of chronic pain compared to nonveterans, as well as higher prevalence and more severe pain. One in ten (9.1%) veterans live with severe chronic pain. Because of this extensive issue, there are many calls to action in medical and research fields about finding methods of pain management.

- Common methods of pain reduction involve pharmacological means in combination with physical therapy.
  - Non-pharmacological methods of stimulation through home-use devices are more readily being evaluated in current research.
- New methods of pain management that are more accessible in a standard home setting are being developed.
- Alleviating symptoms while reducing the need for external pain management methods can be a huge boon to individuals suffering daily from chronic pain.

A key component of personal pain management is stimulation of the vagus nerve, making a person feel more relaxed. While research into direct stimulation of the vagus is underway, exercise, laughter, deep breathing, and time with friends can all stimulate the vagus and contribute to better pain management.

Through the Computerized Patient Record System of the Atlanta VA, providers can request a “Whole Health” consult that utilizes some self-management tools for the purposes of improving quality of life. Options include acupuncture, food as medicine, physical activity, individualized coaching, stress management, and more. Other options, such as tai chi and musical engagement, can be added to help in similar ways. Any activities that promote relaxation of the mind and body have the possibility of improving quality of life, and the mechanisms for finding and increasing those activities are readily available to all those who want and need them.

## **Atlanta VA Health Care System** **a** **“WHOLE HEALTH”** **CARE SYSTEM**



*Zelaya, Carla E. et al. (2020). Chronic pain and high-impact chronic pain among U.S. adults, 2019. (390).*

# CVNR Staff Spotlight

## *Kenlys K. Fajardo, Program Specialist for CVNR*

Kenlys K. Fajardo is a Program Specialist at the RR&D Center for Visual & Neurocognitive Rehabilitation (CVNR) at the Atlanta VA Health Care System. She was born and raised in New York City and moved to Georgia four years ago to pursue a better quality of life. Ms. Fajardo holds a B.S. in Business Administration from St. Thomas Aquinas College. Prior to joining the CVNR team,



she worked for six years as a Program Specialist at the RR&D National Center for the Medical Consequence of Spinal Cord Injury located at the James J. Peters VA Medical Center. She joined the CVNR to support the administrative team. Ms. Fajardo enjoys working in research and seeing the positive changes it brings to our Veterans who take the time to participate in our studies. Besides enjoying listening to different types of music, Ms. Fajardo enjoys hiking trails with her family. One of the many reasons she enjoys living in Georgia is that she loves the natural beauty that can be found everywhere.

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## Reading List for Aphasia Awareness

*Aphasia research at the CVNR aims to reduce language impairments and improve quality of life*



According to the National Aphasia Association nearly 180,000 Americans acquire aphasia each year, but most people have never heard the term “aphasia.” In support of aphasia awareness, the CVNR compiled a 2024 Summer Reading List, consisting of books and

authors suggested by CVNR employees and affiliates. Summer Reading began in June 2024 to kick off aphasia awareness month and continued through August 2024. Summer reading participants received weekly check-in emails that included aphasia awareness facts.

### **Aphasia is a language disorder that may impact:**

- Verbal communication
- Understanding speech
- Reading and writing
- Remembering words and object names

# Inspiring Future Investigators

*Anatomy classes of the Lovett School in Atlanta, GA were captivated when Dr. Anna Woodbury came in as a guest speaker*

Anatomy classes of the Lovett School in Atlanta, GA were captivated when Dr. Anna Woodbury came in as a guest speaker. This collaboration with the school was specifically requested by teacher Katie Vernon, who enlisted Dr. Woodbury's expertise during the neurology block of her high school course. CVNR Neuroimaging Core member Mark Vernon helped make the connection, providing the Lovett School with this incredible opportunity.

Throughout her day there, Dr. Woodbury explained to multiple classes of students the ins and outs of her roles as an anesthesiologist and pain physician, as well as her involvement as a researcher of pain and neuroimaging correlates. Through a carefully made presentation, she

provided an overview of the topics of anesthesiology, pain, acupuncture, and research. She allotted ample time for engagement from the students, offering them the chance to ask their questions and gain a better understanding of the requirements and involvement of each position.

Reports from Katie Vernon after the guest speaking event marked the interest and excitement from her students in learning about these topics. Dr. Woodbury continues to make strides and further her fields, both from within with the significant work she has done and from without with connections forged in the minds of the fields' futures.



# Pain Research Funding

## *Celebrating Dr. Anna Woodbury's research studies*

The CVNR is celebrating another early career awardee success as Dr. Anna Woodbury transitions from her nearly finished CDA2 study examining cranial electrotherapy stimulation (CES) to her new Merit study evaluating percutaneous electrical nerve field stimulation (PENFS) for Veterans with fibromyalgia. Having received its intent to fund, the study is well on its way through the IRB submission with a projected start date of 10/01/2024.

The origin of this Merit study is Dr. Woodbury's CDA1 research, during which she collected preliminary PENFS data. The Merit introduces blinding and placebo control to Dr. Woodbury's PENFS research, as compared with the open label nature of the CDA1, and it will also be much larger in scale.

Though not without its considerable obstacles, the grant process for this study was noted by Dr. Woodbury as a rewarding one. The grant went through several rounds of review to address questions about the nature of the placebo for the project as well as the feasibility of the expected scale of recruitment (a total of 240 participants). Ultimately, Dr. Woodbury successfully justified the approach based on available evidence and the success her previous VA studies.

Dr. Woodbury feels prepared by her past years of conducting projects and by the mentorship she has received by strong fellow experts of the field. She is ready to take on this Merit study and gather the data that will best serve Veteran chronic pain and fibromyalgia patients in the future.





# Atlanta Science Festival

*An annual celebration of world-class learning and STEM career opportunities featuring events for kids and adults*

The Atlanta Science Festival is an annual celebration of the world-class learning and STEM career opportunities in metro Atlanta, featuring 100+ engaging events for curious kids and adults at venues across the region.

As part of the Kickoff at Georgia Tech's Demo Day, the event began with hands-on STEAM activities, demonstrations, and opportunities to learn about research. Dr. Ashley Prichard, along with Georgia Tech undergraduate student researchers, hosted an activity about the brain where children and their families learned about different species and the size and function of each brain region. Attendees learned about animal's brains through 3D printed brains generated from fMRI scans taken at Emory's FERN imaging center of human, dolphin, manatee, sea lion, dog, racoon, Tasmanian devil and even the extinct thylacine. Families had the opportunity to make their own clay brains as they learned about regional brain

functions and how species have dedicated regions that vary in size based on the species' needs, like dog's large olfactory bulbs, and their exceptional ability to smell.

As part of the Exploration Expo, Dr. Machelie Pardue and the greater Atlanta Vision Research Community invited booth visitors to explore the question, "How do our eyes work?" Families engaged with interactive eye models and optical illusions, learning about the anatomy and function of our eyes, as well as how we can trick our eyes with optical illusions. To continue inspiring curiosity, the team provided hand-crafted optical illusions for visitors to take home.

Learn more about the Atlanta Science Festival at <https://atlantasciencefestival.org/events-2024/788-gt-science-and-engineering-day/>





*“Thank you  
Melissa  
Bentley-Ford  
Photography  
for  
taking photos.”*



**Experience the Festival in  
March 2025!**

<https://atlantasciencefestival.org/>

# Atlanta VA Research Day 2024

## *Annual research day at Emory School of Medicine spotlighting research in Veteran healthcare*

The Annual Atlanta VAHCS Research Day was held at Emory School of Medicine on March 15th, 2024 to spotlight the research in Veteran healthcare. Highlights of the event include the Robert J. Pollet memorial lecture delivered by Dr. Jeffrey L. Curtis, a physician-scientist and leading investigator in the field of pulmonary disease. Research Day concluded with awards and recognitions, several of which were received by CVNR personnel.

Research Associate Caroline Quan won second place poster award in the rehabilitation medicine category for her presentation “The Impact of Target Heart Rate Adherence on Longitudinal Change in VO2 Max in a 12-Week Exercise Program.”

Research Biologist Andrew Feola Ph.D., won first place poster award in rehabilitation medicine for the poster “Exercise Prevents Vision Loss After Retinal Ganglion Cell Injury in Ovariectomized Rats.”

Research Associate David Morton won first place poster award and in clinical science category and best poster overall for the poster “Three Months of Partnered Dance Aerobic Exercise May Reduce OFF-time and Improve Quality of Life and Independence in Older Adults with Parkinson’s Disease.”

Research Coordinator Anna Ree won Research Coordinator of the Year in recognition of her accomplishments and her dedication to research and development in Veteran care.

Research Associate Dana DaCosta won Lab Manager of the Year in recognition of her leadership and management skills in the Park lab.

*CVNR Team members at Atlanta VA Research Day 2024*



# CVNR Training Program

*“The pathway to success is paved with the shared wisdom of remarkable mentors” - unknown author*

Did you know that the CVNR sponsors a training program for early career scientists? For nearly five years, the program has been led by Dr. Camille Vaughan, CVNR’s Director of Training. As part of the program, Dr. Vaughan holds yearly individual sessions with trainees to discuss career goals and training needs as well as monthly group sessions that cover a wide range of professional development topics. Speakers include CVNR senior scientists and faculty from affiliated academic institutions who are committed to mentorship and bring a wealth of knowledge and experience. Topics range from lab start up and management to manuscript preparation and response to reviews to overcoming imposter

syndrome. Additionally, trainees can participate as grant applicants and reviewers in mock study sections, which serves as a learning experience for all involved. Given the frequency of training meetings, the program also fosters connections between trainees that promote peer support and collaboration. The program’s value is seen in the high rate of success in trainees transitioning from CDA to Merits, obtaining leadership positions, and advancing their academic careers. In fact, this newsletter highlights one of those successful trainees, Dr. Anna Woodbury! The CVNR is grateful to Dr. Vaughan and all who are dedicated to helping early career scientists grow and succeed.

**Thank you for making  
every discovery possible.**

For information about participating in research contact us at (404) 728-5064 or visit our website at <http://www.varrd.emory.edu>

**9  
New  
Enrollees**

**281  
Active  
Participants**

**523  
Total  
Participants**



**CVNR Participant Registry Enrollment Since November 2024**

# Summer 2024 DEI Students



**Yazan Bouchi** attended the University of Georgia where he received his bachelor's in health Promotion and master's in public health. He is currently a medical student at Morehouse School of

Medicine, class of 2027. As part of his studies, Yazan worked as a research associate in Dr. Joe Nocera's exercise lab assisting with projects such as visualizing relationships between changes in the volume of oxygen in the body and respiratory exchange rate, and metabolic substrate usage. Yazan aims to be a research-physician with a focus in physical medicine and rehabilitation. In his free time, he enjoys bodybuilding, building computers, and cooking.



**Haneul Kim** received a Bachelor of Science in Kinesiology from Augusta University and is currently pursuing a master's degree in the Hubert Department

of Global Health at Emory University Rollins School of Public Health. As a research assistant in Dr. Madeleine Hackney's lab, Haneul Kim has made contributions to projects examining how the Off-State affects compliance to the treatment program with Parkinson's disease. Haneul's other health and research interests include sexual and reproductive health, and health equity and advocacy for underrepresented communities. Her future career pursuits include obtaining a PhD and continuing research. Haneul's spare time is spent capturing moments through photography and playing musical instruments including the piano and Gayageum, a traditional Korean instrument.

**Alex Rodriguez** received a degree in Biological Sciences at the University of Chicago, and he's currently pursuing a Master of Public Health at Emory University Rollins



School of Public Health. While working as a research assistant in Dr. Madeleine Hackney's Lab, Alex interacted with several research participants and staff, as well as lead rhythmic movement

classes targeted toward people with Parkinson's Disease. Moreover, Alex has helped Dr. Hackney investigate the effect of participation in these classes on psychosocial outcomes like depression, social support, and quality of life. Alex has a special interest in mental health research. He previously worked on a perinatal depression research study in the Chicago area and would like to continue work in mental health studies. He also has an interest in substance use disorder research, as he believes it is a major problem in the United States and needs more attention. After finishing his MPH, Alex aims to enter an Epidemiology PhD program to continue his research efforts. Alex's free time is spent exploring urban neighborhoods, trying different foods, and experiencing the local events that Atlanta has to offer.



**Taylor James** attended Emory University as a double major in English and Creative Writing and Anthropology & Human Biology. Her work as a research assistant in Dr. Ashley Prichard's lab consists

of piloting the radial arm maze software that measures reference and working memory in mice, and creating a protocol for the Barnes maze which measures spatial memory in mice. Taylor is also interested in research regarding neurodegenerative diseases, infectious diseases, and how environmental factors contribute to the development of chronic diseases. Taylor's future career goals include working in surgery. Her hobbies include cooking, sculpting, writing, and reading.

# In Your Own Words

## *A research participant recalls his experience in CVNR research*

Mr. CeCedrick Lockett, a pain research participant, recalls his experience in CVNR research. He participated in Dr. Anna Woodbury's cranial electrical stimulation (CES) study titled, "Randomized Double-Blind Placebo-Controlled Trial: fMRI Assessment of Cranial Electrical Stimulation for Fibromyalgia in Veterans. He states the CES study was "extremely helpful" in management of his pain. His primary

remembrance of his study participation, other than the frequent MRI scans, is the CVNR staff's daily attentiveness of checking his comfort and asking every day what his pain level was. Mr. Lockett says "It was very engaging, it was comfortable, knowledge was given. Nothing was left out. I felt that they cared about my needs. Everything was 5 stars and then some."

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## Engage, Influence, and Direct

### *Join the CVNR Community Advisory Panel (CAP)*

#### **What is the CAP?**

Formed in 2022, The CAP is a group of representatives from local Veteran Organization(s), Atlanta VA clinic staff/employees, and experts in the fields of visual and neurocognitive rehabilitation with lived experiences of the visual and neurocognitive disorders that are researched by CVNR investigators.

#### **What does the CAP do?**

The CAP offers constructive influence on CVNR community outreach efforts. CAP member initiated projects include a Parkinson's disease educational event held at the VA which included panel discussions about living with Parkinson's disease and its associated health conditions, and the Sunflower Project which provided health care workers and families with educational modules and written materials to facilitate improved interaction with patients.

#### **What do we ask of CAP members?**

- Attend at least 4 online quarterly meetings
- Provide advice and guidance on the direction and effectiveness of CVNR research programs

#### **What are some highlights of being a CAP member?**

- Opportunities to help organize and/or attend Atlanta VAHCS and CVNR events
- Expand your visual and brain health knowledge with CVNR investigator presentations at quarterly meetings.
- Network with community members and hear different points of view

#### **Interested in applying?**

Please contact the CVNR via email or phone for more information!

**Email:** CVNR@va.gov

**Phone:** 404-321-6111 ext.206798

# Gerofit National Site Visit to CVNR

## *Program designed to improve older Veterans health through exercise*

Gerofit is a VA sponsored, exercise and wellness program specifically designed to help improve the health of older Veterans through exercise. On July 24th, 2024, the CVNR hosted a site visit which comprised a seminar presentation led by Dr. Katherine Hall, Director of Gerofit Clinical Exercise Program and her colleagues, Stephen Jennings, and Megan Pearson. The presentation focused on history of the program and the positive health outcomes associated with program participation.

The Atlanta Gerofit team is a collaboration between the CVNR and Atlanta site of the Birmingham/Atlanta Geriatric Research Education and Clinical Center (GRECC) and includes Joe Nocera, Camille Vaughan, Madeline Hackney, and Troy Moore. Gerofit helps Veterans stay active by using a variety of strength and aerobic exercises. The program also provides group

classes like tai chi, dancing, walking, and balance. All veterans are given a personalized exercise plan and are guided by trained exercise staff. Classes can be held in person or via a video telehealth platform. Participants have demonstrated improved health, mental, physical function and well-being.



*Dr. Katherine Hall, PhD presenting the Gerofit program at the Atlanta VA Pete Wheeler Auditorium*



*CVNR and Gerofit Staff (left to right): Dr. Walter Royal III, Stephen Jennings, Megan Pearson, Dr. Katherine Hall, Dr. Camille Vaughan, and Troy Moore*

# CVNR Active Studies

Study Name	Inclusion/Eligibility	Contact Info
<b>Brain Studies</b>		
rTMS in Alleviating Pain and Co-morbid Symptoms in Gulf War Veterans	<ul style="list-style-type: none"> <li>Age 65 and younger</li> <li>Served in the Gulf War in 1990-1991</li> <li>Have headaches, muscle and joint pain</li> <li>Moderate to severe depression</li> </ul>	Carly Ragin 678-408-1433
Intention Treatment for Anomia: Investigating Dose Frequency Effects and Predictors of Treatment Response to Improve Efficacy and Clinical Translation	<ul style="list-style-type: none"> <li>Have aphasia caused by stroke</li> <li>Be 21-89 years old</li> </ul>	Anna Ree 678-427-2012
*(Affiliate) Multimodal Neuroimaging: Advanced Tracking of Longitudinal Aphasia Recovery	<ul style="list-style-type: none"> <li>Male or female age (18-89) who are 2-6 weeks post ischemic stroke</li> <li>English primary language</li> <li>Subjects must be willing to participate and understand the consent</li> </ul>	Coordinator 404-321-6111, ext.207507
*(Affiliate) National Adaptive Trial for PTSD related Insomnia (NAP)	<ul style="list-style-type: none"> <li>Age 18-75</li> <li>PTSD related to military service</li> <li>Insomnia</li> </ul>	Anil Varughese 404-321-6111, ext. 205068
Auricular Neuromodulation in Veterans with Fibromyalgia: A Randomized, Sham-Controlled Study	<ul style="list-style-type: none"> <li>Adult Veterans with a diagnosis of Fibromyalgia</li> <li>Right-handedness</li> <li>Age 20-60 years old</li> </ul>	Anna Ree 678-427-2012
<b>Exercise Studies</b>		
Enhanced Home-Based Exercise Therapy for Peripheral Arterial Disease through Mobile Health and Remote Monitoring: The Smart MOVE Study	<ul style="list-style-type: none"> <li>Confirmed peripheral artery disease (PAD) with symptoms (leg pain)</li> <li>Willingness to participate in a structured exercise/walking program</li> <li>Owns a smart phone with a data plan or access to Wi-Fi</li> </ul>	Risha Patel 404-417-5305  Brandon Jones 404-321-6111, ext. 202770
The Active AMD Study to Improve Function in Veterans with Age Related Macular Degeneration	<ul style="list-style-type: none"> <li>No regular exercise participation in last 6 months</li> <li>Physician approval to participate in exercise</li> </ul>	Medina Bello 404-825-8820
Partnered Dance Aerobic Exercise as a Neuroprotective, Motor & Cognitive Intervention in Parkinson's Disease	<ul style="list-style-type: none"> <li>Parkinson's Disease</li> <li>Age 40-89</li> </ul>	Cathleen Carroll-Sauer 404-436-1536
<b>Vision Studies</b>		
Treating Early-Stage Diabetic Retinopathy	<ul style="list-style-type: none"> <li>Age 30-80</li> <li>Diabetes with no detectable vision loss</li> <li>Diabetes with first stages of diabetic retinopathy (i.e., microaneurysms)</li> </ul>	Frankie Moore 404-321-6111, ext. 126792  Katherine Avery 404-321-6111, ext. 201863  Christina Young 404-321-6111, ext. 202561
<b>Registry</b>		
Atlanta VA Rehab R&D Center for Visual and Neurocognitive Rehabilitation Participant Registry	<ul style="list-style-type: none"> <li>18 and older</li> </ul>	404-728-5064



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# CVNR NEWSLETTER

CENTER for VISUAL and NEUROCOGNITIVE REHABILITATION

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