

# CENTER *on* AGING

www.musc.edu/aging

October 2015

Dear Readers,

We hope this newsletter finds our SC colleagues and friends safe and dry after the devastating flooding that we experienced. Our thoughts and prayers are with all of the families that have been affected by this state-wide catastrophe.

I would like to welcome the new Deputy Directors of the Center on Aging, Dr. Vanessa Hinson and Dr. DeAnna Adkins! Congratulations on being elected and we look forward to working with you both!

The Senior Mentor Program is in full swing, with another medical class meeting their new mentors at the orientation luncheon just around the corner.

Recently, the Center on Aging helped Respite Care Charleston organize their 5<sup>th</sup> Annual Moments on Canvas, a benefit art sale and silent auction. Respite care provides invaluable support for those with dementia and their families.

The Center on Aging's "Endow your Brain Team" participated again this

year in the Walk to End Alzheimer's with a record year of registered walkers. The event has become so successful that it had to be moved from Mt. Pleasant to North Charleston to accommodate the crowd.

Finally, we are proud to announce that we have a very exciting program for the upcoming Aging Research Day, which will be held February 26, 2016 at the Marriott Hotel. We have a distinguished speaker, Dr. Nicolas Bazan. Invitations and registration forms for Aging Research Day will be sent out shortly and made available on our website. Researchers, don't forget to submit abstracts and share with your colleagues, students and fellows.

We wish you all a very nice fall. Don't hesitate to contact our office if you have questions regarding any of the events or programs.

Warm regards,

Lotta



Lotta Granholm, PhD/DDS  
Director, Center on Aging

## IN THIS EDITION

Senior Fitness Programs

CCNL Update

CoA Updates

Medication Management

Aging Research Day

Senior Mentor Program

Oral Health Project

# MUSC Wellness Center



## Functional Training Programs for 50+

The MUSC Wellness Center provides several programs focusing on the 50+ age group. All ages are welcome in these programs which focus on functional and structural changes that take place in the body associated with the aging process. Staying fit at all ages will help the body endure stress, decrease the risk of chronic disease, and promote good health and well being. These exercise programs will also help the body perform daily tasks more efficiently, rejuvenate muscle tissue, and still have energy left over for enjoyment of leisure time. Members are welcome at any time. Instructors will orient new members to the exercises and modifications.

### KAREN'S CLASS

This group exercise class is taught by Karen Theos, certified Senior Fitness instructor with 25 years' experience. This class is designed for ages 50 years and over and focuses on agility,

balance, coordination, endurance, stretching, and strength training. Physician clearance is required. All abilities are welcome at any time. Modifications are taught for participants who are limited in range of motion or mobility. Equipment used includes steps, dumbbells, weighted balls, resistance bands, weighted bars, exercise balls, and other props. This class is done to music as a group.

### S.T.A.E. FIT

(Strength Training and Aerobic Exercise) – Healthy MUSCles for Seniors! This program combines strength, aerobics, flexibility, and balance exercises. The class follows an easy progression beginning with stretching, abdominal, back, and balance exercises. This is followed by 30 minutes of cardiovascular exercise using the indoor or outdoor track, and equipment such as the treadmill,

elliptical trainer, Nustep, and various steppers and bikes. The strength training exercises include resistance tubing, dumbbells, weighted bars, exercise balls and body weight exercises. Safety, proper training techniques, strength, endurance, balance, and range of motion are all important aspects of the program.

Physician clearance is required for the program. The program is not for rehabilitation or physical therapy purposes. It is intended to keep senior adults physically active, healthy, prevent injury, and improve the quality of life. Class schedule: Monday, Wednesday, Friday from 10:00 am to 11:00 am. Fees: Free for members or \$175.00 for 3 months.

**For information on class schedules or membership to the MUSC Wellness Center, please visit:**  
[www.musc.edu/hsc](http://www.musc.edu/hsc)

## RECENT PUBLICATIONS:

### Health-related quality of life in older adults: effects of hearing loss and common chronic conditions.

Simpson AN, Simpson KN, Dubno JR (2015).  
Healthy Aging Research 4:4. doi:10.12715/har.2015.4.4

### Cognitive Impairment, Neuroimaging, and Alzheimer Neuropathology in Mouse Models of Down Syndrome.

Hamlett Eric D, Boger HA, Ledreux A, Kelley CM, Mufson EJ, Falangola MF, Guilfoyle DN, Nixon RA, Patterson D, Duval N, Granholm AE (1).  
Current Alzheimer Research. 2015 Sep 20. [Epub ahead of print]



## Carroll A. Campbell, Jr. Neuropathology Laboratory Update

The Carroll A. Campbell, Jr. Neuropathology Laboratory, or MUSC Brain Bank, has officially moved to the Department of Pathology, as of September 1<sup>st</sup>, 2015. We welcome Dr. Steven Carroll to this new leadership role as Director of the CCNL.

At this time, new donor registrations are being temporarily suspended. If you are a currently registered donor and have any questions at all, please note that the phone numbers and website have remained the same.

Office phone: (843) 792-7867

Donor Hotline: (843) 494-1578 (only to be used at time of impending death)

Website: [www.musc.edu/brainbank](http://www.musc.edu/brainbank)

# The Center on Aging in the Community What We've Been Up To!

## CoA's New Deputy Directors



VANESSA HINSON, MD, PHD

Dr. Hinson brings many years of interdisciplinary leadership experience to us. With the Murray Center for Research on Parkinson's and Related Disorders, she has led collaborations with basic neuroscientists, the College of Health Professions and their Motion Analysis Lab, the neurosurgery arm of the Deep Brain Stimulation Program, Neuropsychology, and the Institute of Psychiatry Brain Stimulation Lab.

She has also recently brought about a new interdisciplinary clinic for movement disorders patients with collaboration among neurologists, rehab sciences specialists, social workers and education nurses.



DEANNA ADKINS, PHD

Dr. Adkin's research focuses on investigating how learning-induced neural plasticity in adults can be capitalized upon and used in conjunction with novel pharmacological, behavioral and technological treatments to drive better motor and cognitive recovery after stroke. One of her primary long-term goals is to build bridges between the basic sciences and clinical application in order to optimize treatments for human survivors of stroke and those with other brain injuries.

Dr. Adkins has a growing track record as a leader on campus and a vision for new areas of growth for the Center on Aging. She aims to bring a breadth of connections with clinicians, researchers and students across campus that work with the elderly or research diseases and conditions linked to aging. Her goal is to foster the growth of the Center on Aging into a focal point for services for our aging population, becoming a one-stop resource for the elderly and their caregivers in Charleston.

## Alzheimer's Education Conference

Dr. Granholm presented at the 14th Annual Educational Workshop, hosted by the Alzheimer's Association and held on September 11th at Trident Technical College. This year's theme was "Putting the Pieces Together". Dr. Granholm spoke to attendees about Healthy Aging.



## Walk to End Alzheimer's

Thanks to all who came out as a part of the Center on Aging's "Endow Your Brain" team on September 19th. Our team raised nearly **\$2,000** for the Alzheimer's Association and had over 20 walkers register. It was a great day at the Riverfront Park in North Charleston. Hope to see you out there next year!



## 5th Annual Moments on Canvas Art Sale

It was a pleasure to be a part of this outstanding event benefitting Respite Care Charleston on October 1st. Not only does it raise funds to support their day programs, but it also celebrates the creative minds through the artwork painted by their participants suffering from dementia.



# LIVE @ HOME TECHNOLOGIES

## Medication Management

By: Stacey M. Pierce

Stacey@theoakssc.com or 803-347-3003



Just as I sat down to write this article, my phone rang, and there on the other end was a gentleman who lives in New Jersey asking for help for his mother who lives in rural South Carolina. He proceeded to explain that his 83 year-old mother had just been released from the hospital after a three day stay, due to mismanagement of her medication. This is a call I receive far too often.

According to the CDC, 75% of adults are non-adherence to their medication in some way, which accounts for up to 125,000 deaths a year and costs up to \$289 billion annually. (www.cdc.gov) Now that is a hard pill to swallow!

This problem will get only worse if we as practitioners, caregivers, loved ones, and those taking medications do not start taking action. We need to be proactive, instead of reactive, with medication management and compliance. According to Chad Straughan, Pharmacist at Tidewater Pharmacy in Mt. Pleasant, "most patients 65 and over take 6-8 medications/supplements a day on average. Patients with impaired cardiovascular health and diabetes often are on 10+ medications daily. I have seen patients on 20+ medications. It is important to note, this is not an over prescribing of medication, but in many situations, these medications are necessary to allow the patients to maintain a normal and functional life." Chad continued by saying, "given the fact that the older population takes more medication daily, medication management often becomes more

difficult. Keeping track of the various medication regimens (once daily, twice daily, in the morning, with meals, etc.) is often a hindrance to compliance.

Also, the side effect profile of the medication can often play a part in medication management, especially if the effects are negative and daily function limiting." Simply, the first call to action is to EDUCATE. What is the medication? Why is it important? When does it need to be taken? What are side effects? We also need to take steps to assure we take it at the appropriate times, with or without

*"Watching my father-in-law and his family struggle with his complex medication regimen gave me the motivation to develop a simple solution for both the patient and the caregiver."*

food, or otherwise directed by our physicians.

I am sure you are screaming, "We do all that! The instructions are on the bottle, along with the side effects. The Pharmacist staples extra information on the bag but mom still misses her medications, or forgets she has taken them. We spend hours weekly sorting and placing her pills in a box, which is on the kitchen table." The key words in that exchange is "box on the table". It is up to us to recognize when it is time to be proactive to avoid medication mishaps.

Today, with the ever-changing face of technology, there are products on the market to help with medications adherence, while you as the caregiver gains peace of mind and your loved one maintains a sense of independence. There are many types of medication boxes, medications reminders systems, alarms, apps,

and medications dispensers in the marketplace today. There are ones that beep, light up, send text messages, send emails, make a verbal announcement or even call you to remind you that it is "time to take your medicine". Some go as far as texting or calling a loved one to remind them it is "time to take your medicine", or to report that the medication has not been taken. Technology can help us track doses dispensed and offer compliance records straight to the doctor's office. There are dispensers nearing the market which will hold a 90 day supply, requiring no presorting.

One such dispenser has been developed by a Charleston based company call PharmRight. The CEO, Bill Park, explained the catalyst surrounding his creation of "Livi", a new medication dispenser expected to be ready for consumer use by Q1 2016. "Watching my father-in-law (CHF patient) and his family struggle with his complex medication regimen gave me the motivation to develop a simple solution for both the patient and the caregiver. I created Livi to provide a solution that ensures medication adherence and improves the overall quality of life for our customers." Livi will also have the capabilities to send alerts when medications are low and display on a screen all instructions and side effects each medication may have.

With technology being at the forefront of care it continues to expand the possibilities for our loved ones to age in place, allowing them a safer tomorrow.

# SAVE THE DATE

## 12<sup>th</sup> Annual Aging Research Day 2016

### "Sensory Systems in Aging"

Friday, February 26<sup>th</sup> - Marriott on Lockwood Boulevard

The South Carolina Aging Research Network (SCARN) is excited to be presenting another Aging Research Day Conference in 2016!

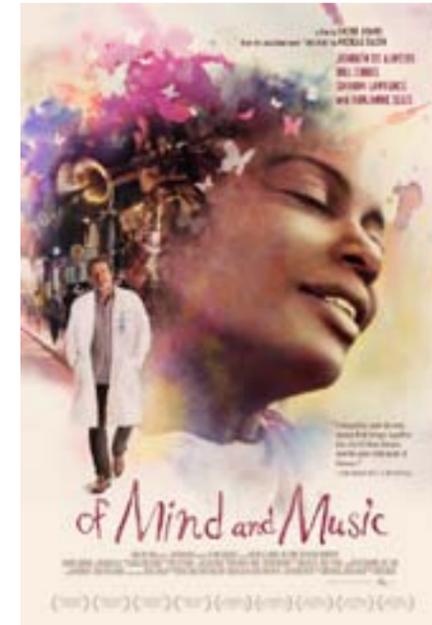
Hosted by MUSC this year, the theme for the 12th Annual Aging Research Day is "Sensory Systems in Aging" and will include interesting lectures and posters related to this topic.

We are pleased to announce our keynote speaker will be Dr. Nicolas Bazan, who is internationally recognized for his contributions to neuroscience and research in vision and ophthalmology, as well as an author, educator, mentor, developer, music enthusiast, and art lover.

Dr. Bazan's first novel was adapted into the award winning film, **of Mind and Music**, formerly **Una Vida**, which was a large part of the inspiration for this year's theme on sensory systems. For more information on the film, visit [www.ofmindandmusic.com](http://www.ofmindandmusic.com).

Joining Dr. Bazan, will be the following researchers to discuss how aging and age-related diseases affect the senses:

- **Xue Z. Liu, MD, PhD**  
University of Miami Miller School of Medicine
- **Baerbel Rohrer, PhD**  
MUSC
- **Ellen Vincent, PhD**  
Clemson University
- **Renata Leite, PhD**  
MUSC
- **Victor Hirth, MD, MHA, CMD, FACP, AGSF**  
Palmetto Health
- **Johnell Brooks, PhD**  
Clemson University
- **Stacey Pierce**  
Live @ Home Technologies



The conference will run from **7:30 a.m. - 5:30 p.m.** and will be open to the public. Continental lunch and breakfast provided. Advanced registration is required by February 5th due to limited space.

For registration forms, please visit [www.musc.edu/aging](http://www.musc.edu/aging).

Contact Kelly Dillon with any questions at [dillonk@musc.edu](mailto:dillonk@musc.edu).

**Senior Mentors!**  
Please join us for a special guest speaker and a wine and cheese reception at 4:00 p.m.

Kindly R.S.V.P. by  
February 12, 2016  
[dillonk@musc.edu](mailto:dillonk@musc.edu) or  
(843) 792-0712

## PILOT GRANT OPPORTUNITY

The South Carolina Aging Research Network (SCARN) aims to enhance interprofessional and inter-institutional research collaborations in South Carolina.

This is the first of several annual planned requests for applications for an interdisciplinary pilot grant involving two or more institutions of the Health Sciences South Carolina institutions, which make up the constitution of SCARN.

This pilot grant will be co-funded by the Senior Smart CoEE and the MUSC Center on Aging. The purpose is for junior investigators and students to collect data that will lead to federal funding and/or a continued collaboration.

The project can be mentored by senior investigators at one or both of the institutions, but the grant funding will be used to support postdoctoral fellows, residents, or graduate students only.

Applicants should be postdoctoral fellows, graduate students, residents, or clinical fellows working together on projects including two of the South Carolina HSSC institutions.

Funding is available to support one-two grants at \$10-15,000 each for one year. The ultimate goal is for this pilot grant to lead to federal funding.

**The project must include a collaboration between two institutions and involved junior investigators.**

The grant proposal will be evaluated by SCARN executive committee members and the winners will be announced at the 12<sup>th</sup> Annual Aging Research Day.

**Deadline: January 1, 2016**

**Contact: Dr. Lotta Granholm**  
[granholm@musc.edu](mailto:granholm@musc.edu)

# SENIOR MENTOR PROGRAM



**READY TO BECOME A SENIOR MENTOR?**

The Senior Mentor Program is a volunteer program that connects medical students from the Medical University of South Carolina with people aged 65 years and older living in the greater Charleston, SC area.

This program aims to encourage medical students to have positive attitudes about caring for older adults. It also focuses on helping reduce stereotypes about aging while striving to improve the way future doctors care for older persons.

### What do the students do in the program?

- Students are paired with “healthy” seniors in the community for all 4 years of medical school to complete assignments, based on information that they have learned in the classroom.
- Students meet with the senior mentors in their homes to learn in a non-clinical setting.
- Students evaluate the health of their senior mentors by performing tasks, such as a nutrition analysis, fall risk assessment, and advanced care planning.

To sign up or to find out more about the Senior Mentor Program please visit [www.musc.edu/senior](http://www.musc.edu/senior) or call (843) 792-0460.

## STUDENT ASSIGNMENT SCHEDULE

Student Year	Assignment	Curriculum	Due
1 <sup>st</sup>	Physiology of Aging	Fundamentals of Patient Care	11/30/15
1 <sup>st</sup>	Relationship/Intimacy Review with Medical History	Fundamentals of Patient Care	Spring 2016
2 <sup>nd</sup>	Nutrition Analysis	Pharmacotherapeutics & Nutrition Forum	11/16/15
2 <sup>nd</sup>	Medication Use in the Elderly	Geriatric Pharmacology Lecture	Spring 2016
3 <sup>rd</sup>	Fall Risk	Internal Medicine Clerkship	End of Rotation
3 <sup>rd</sup>	Life Review	Psychiatric Clerkship	End of Rotation
4 <sup>th</sup>	Advance Directive	Senior Medicine Core	Spring 2016

# Division of Periodontics Project: FLOSS

## Facilitating Long-Term Oral Health Services

Funded by Centers for Medicare and Medicaid Services

What amounts to “a silent epidemic” of oral diseases is affecting our most vulnerable citizens — poor children, the elderly, and many members of racial and ethnic minority groups (2000).

It is well known that poor oral health is associated with a variety of preventable chronic diseases such as cancer, oral as well as other forms (gastric, lung, pancreatic) (Seymour, 2010). It is also strongly correlated with increased risks of a variety of systemic conditions, such as diabetes mellitus and cardiovascular disease (Seymour, 2009).

Breaking research has demonstrated a link between the protein found in gum disease and the progression of Alzheimer’s disease (Manczak and Reddy, 2013). The findings from this study suggest poor oral hygiene can accelerate the progression of memory loss. Oral health is generally very poor among residents of long-term care (LTC) facilities, where chronic gingivitis, caries, missing teeth and

chewing difficulties, along with discomfort and pain are very common (MacEntee et al., 1991; Wyatt, 2002a; b). Involuntary weight loss has been associated with poor oral hygiene, dry-mouth and difficulties chewing food when defective teeth and dentures reduce masticatory efficiency, restrict intake of essential nutrients, and limit the selection of nutritious foods (Sheiham et al., 2001; Walls et al., 2000).

The broad long-term goal of this project is to improve the oral health of LTC facilities residents. We will contribute to this goal by improving the competencies of Certified Nursing Assistants (CNAs) on oral health care through curriculum enhancements for CNAs in the training pipeline and continuing education opportunities for those in practice.

Using a community-based participatory research (CBPR) approach, we will identify the oral health educational needs of LTC facilities certified nurses assistants

(CNA) and design and test an initiative for oral health training improvement using an online curriculum.

In this research partnership, the academic researchers contribute the framework of an evidence-based oral health improvement curriculum and methods for rigorous scientific testing. The community partners define the needs of the community, the context for adapting, implementing, and interpreting the outcomes of the intervention to address the unique oral health needs of LTC facilities residents.

The initiative involves the evaluation of the training and intervention implementation protocols, evaluation of feasibility of the proposed intervention and variability of outcome measures.

Findings of this project will guide the necessary training curriculum improvement to allow adequate oral care delivery in this setting.

## CONGRATULATIONS to Dr. Granholm on being appointed Guest Professor at the Karolinska Institutet!

On October 15<sup>th</sup> Dr. Granholm was inducted as a Guest Professor of the Department of Neurobiology, Care Sciences and Society (NVS) of the Karolinska Institutet (KI). KI is the largest center in Stockholm for biomedical research and education, with 30% of the medical education, and more than 40% of all medical research in Sweden.

The professor installation ceremony is one of the grandest academic events of the year, and was particularly festive with the announcement that one of KI’s graduates has received this year’s Nobel Prize. Dr. Tomas Lindahl and two other investigators were awarded the Nobel Prize in Chemistry. Their prize motivation was “for mechanistic studies of base excision DNA repair”.

Founded in 1810, KI currently has about 2,000 graduate students, with more than 300 graduates each year. During their official promotion, each PhD candidates receives their traditional hat, gold ring, and diploma in the presence of friends and family. Dr. Granholm was herself, one of these candidates, graduating from KI with DDS and PhD degrees in 1985, so it was especially rewarding for her to return as a Guest Professor.



Dr. Granholm at the ceremony in Stockholm, Sweden with her husband, Steve

## CENTER *on* AGING STAFF

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Thank you to Eric Hamlett + Rebecca Derex for spending time teaching these young scientists about the human brain this summer in the lab!



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