

Albert Einstein College of Medicine

Jack and Pearl Resnick Gerontology Center

Annual Report 2019

Joe Verghese, M.B.B.S., M.S.

Professor of Neurology and Medicine

Director, Integrated Divisions of Cognitive & Motor Aging and Geriatrics

I would like to express my sincere gratitude to the Resnick family for their generous support in promoting geriatrics and aging research initiatives at Einstein. Please accept my deepest condolences for your family's loss.

Over the last year we have made significant strides in promoting aging-related activities with your support. Our research and academic aging programs are conducted under the aegis of the integrated Divisions of Cognitive & Motor Aging in the Department of Neurology and Division of Geriatrics in the Department of Medicine. Highlights of our research, academic and educational activities sponsored by the Resnick Center in 2019 are provided below.

Research activities:

The Resnick Center has continued to support pilot grants to stimulate aging-related research at Einstein, support new investigators and allow established investigators to explore new directions.

With support from the Resnick Center and funding from the National Institutes of Health, we have initiated new randomized clinical trial to determine if ballroom dancing, as a sensorimotor rhythmic activity that integrates physical, cognitive, and social elements, can mitigate a variety of physical and cognitive impairment symptoms in older adults at high risk of Alzheimer's Disease and other dementias. The study has received positive feedback from participants and has been featured on [CBS news](#) and the [Wall Street Journal](#).

Helena Blumen, Ph.D., an assistant professor in the Divisions of Geriatrics (Medicine) and Cognitive & Motor Aging (Neurology), Co-PI of the social dancing study describe above, is nearing the completion of a career development award from the National Institute on Aging (NIA: 1K01AG049829-01A1), which examines the therapeutic potential of motor imagery for improving gait and cognition in aging. She also recently secured NIA funding for her first R01 as PI (1R01AG062659-01A1) – which examines trajectories and modifiable risk factors of brain, gait and cognitive decline in aging and pre-dementia. The Resnick Center support for these activities is gratefully acknowledged.

Jeannette Mahoney, Ph.D., an assistant professor in the Division of Cognitive & Motor Aging, Department of Neurology has continued to pursue her research of multisensory integration. In 2016, Dr. Mahoney was awarded a five-year grant from NIH to study how older adults integrate

visual and somatosensory information, looking particularly at how this integration influences balance and other motor outcomes. Her findings could lead to interventions that prevent loss of mobility, falls and disability in older people. Over the last year she has published several papers describing her findings, gratefully acknowledging the support of the Resnick Center (see publication list below).

The following publications were made possible with support from the Resnick Center over the last year.

1. Mahoney JR, Verghese J. Using the Race Model Inequality to Quantify Behavioral Multisensory Integration Effects J Vis Exp. - February 2019 (Accepted).
2. Mahoney JR & Barnett-Cowan M. Introduction to the Special Issue on Multisensory Processing and Aging (Part II): Links to Clinically Meaningful Outcomes. Multisens Res, 2019 Jan; 32 (8) 665-670. PMID: 31648200
3. Mahoney JR & Verghese J. Does cognitive impairment influence visual-somatosensory integration and mobility in older adults? J Gerontol A Biol Sci Med Sci. 2020 Feb; 75 (3) 581-58. PubMed PMID: 31111868
4. Mahoney JR, Verghese J & George, C. The Influence of Medical Co-morbidities on Multisensory Integration and Mobility in Aging.
5. van der Leeuw G, Siedlecki KL, Blankenstein AH, van der Horst HE, Verghese J. The Role of C-Reactive Protein in the Pain and Cognition Relationship. Journal of the American Medical Directors Association. 2020 Jan 9.
6. van der Leeuw G, Ayers E, Blankenstein AH, van der Horst HE, Verghese J. The association between pain and prevalent and incident motoric cognitive risk syndrome in older adults. Archives of Gerontology and Geriatrics. 2020 Mar 1;87:103991.

Clinical activities:

The Center for the Aging Brain (CAB), a dementia evaluation center that was a collaborative effort between Montefiore Medical Center and the Albert Einstein College of Medicine, opened in 2013. The Center provides a multidisciplinary approach to dementia care, bringing together the expertise of world-class doctors to provide personalized and comprehensive treatment for a range of cognitive and motor conditions facing older adults.

In 2016, the CAB was awarded the Center of Excellence in Alzheimer's disease by the New York State Department of Health that helped create a new clinical partnership between CAB and Burke Rehabilitation Hospital that will expand cognitive screening, diagnosis and care planning efforts. The CAB also provides training of primary care providers throughout the region who can help screen for and diagnose cognitive impairment and make referrals to specialists and community-based organizations that support those impacted by Alzheimer's disease.

Educational activities:

The Resnick Center sponsored our annual winter research symposium in December 2019. Faculty from the integrated Divisions of Cognitive & Motor Aging and Geriatrics, postdoctoral fellows, doctoral students and medical students presented aging-related research projects and progress.

The Resnick Gerontology Center Aging Research Award was awarded at this symposium. Entries for the award were invited from all medical students, and we had a lively response. The jury for the award was Dr. Helena Blumen, Assistant Professor of Medicine and Neurology, and Dr. Ellie Schoenbaum, Director of Medical Student Research. The award was presented at the Resnick Winter Symposium.

The Resnick Medical Student Research Award in Aging Research was awarded to Nicole Felix, an MD candidate at Albert Einstein College of Medicine. Her research suggests that increased social support reduces the risk for motor cognitive risk (MCR) – a pre-dementia syndrome characterized by slow gait and cognitive complaint.

In 2017, we established the **Resnick Center Emerging Scholar in Aging Award** Program, which provides funding to current and recent graduates of the Einstein Clinical Research Training program who are conducting aging related research. These awards support pilot studies or conference presentations of aging related research and are awarded at the Annual Resnick Winter Symposium. The Clinical Research Training program has an outstanding record in developing clinical researchers, and partnering with the program will enable the Resnick Center to have a sustained impact on the aging research efforts at Einstein through the graduates and their aging related research. The award jury included Dr. Aileen McGinn, Associate Professor, Department of Epidemiology & Population Health and Director of the Clinical Research Training Program, and Dr. Paul Marantz, Associate Dean for Clinical Research Education and Professor in the Departments of Epidemiology & Population Health and Medicine.

The awardee this year was Mirnova Ceide, M.D. Dr. Ceide graduated from the Clinical Research Training program in 2019 under the mentorship of Dr. Joe Verghese. Through the program's support, Dr. Ceide plans to validate the Geriatric Depression Scale as a measurement tool to distinguish depression and apathy in older adults in primary care settings. Dr. Ceide plans to further examine apathy in a subset of 5-Cog participants, and to conduct structured, clinical apathy interviews with a subset of participants. In the future, Dr. Ceide plans to study the association between this new apathy measurement model, gait velocity, and cognition.

The awardee last year was Claudene George, M.D. Dr. George graduated with distinction from the Clinical Research Training program in 2018 under the mentorship of Drs. Joe Verghese and Roe Holtzer. The Resnick award allowed for Dr. George to develop and implement the Medical Review and Intervention Study (MedRIS), a pilot project conducted in the Geriatrics

ambulatory practice to apply a medication review and reconciliation tool focused on rational prescribing, with a goal of limiting polypharmacology in older adult patients.

We continue to support doctoral and graduate training of over ten scholars from Einstein as well as from the Ferkauf School of Psychology. These training activities ensure our growth and support the next generation of independent investigators.

Through its support of the above research, clinical and educational activities, the Resnick Center continues to make major contributions to the clinical and research training of medical students, medical residents, postdoctoral fellows, and junior faculty at Einstein. I am pleased to briefly summarize our progress on all these fronts, and am even more enthusiastic about our future directions. The research activities outlined are essential components in developing therapies that can reduce the burden of dementia and disability among older adults. I hope that the Resnick family shares my excitement and satisfaction at being a part of these exciting times in the neurosciences, and wish to express my appreciation for their contributions that help make this possible.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'J. Verghese'.

Joe Verghese, M.D.
Professor of Neurology and Medicine