Background
The Duke Pepper Older Americans Independence Center (OAIC) (NIA P30 AG028716-01) aims to enhance and support research and promote research career development in aging research through its Core resources. The central theme of our OIA, based in the Duke Center for the Study of Aging and Human Development, is to understand and enhance reserve and resilience to promote recovery from stressors in late life. The three Research Cores include: 1) Analysis Core, which provides statistical and technical support for projects as well as furthering statistical and analytical science, 2) Molecular Measures Core, which provides comprehensive biomarkers phenotyping to characterize biochemical, metabolic and genetic bases for aging research, and 3) Physical Measures Core which provides expertise, devices, equipment and protocols for functional, physical and psychological measures.

One of the charges of the Physical Measures Core is to develop or adapt technologies that can be used to measure physical capabilities in a way that can contribute to our overall theme of physical resilience. Examples include development of a device to automatically measure gait speed, development of a tool to measure gait speed in a clinical setting, development of a new approach to using bioelectrical impedance to measure muscle quality.

Objective
The objective of this solicitation is to seek the highest quality Health Innovations Technology development projects from within Duke University and Duke University Medical Center. The scope of the Health Innovations program includes, but is not limited to, development projects that propose new physical assessments and/or aim to integrate existing assessments with digital health technologies, development of new uses of existing technologies of relevance to measurement of physical resiliency.

Projects of Interest
We are especially interested in projects that relate to our focus on “Enhancing Physical Reserve and Resilience to Promote Recovery from Late Life Stressors”. Projects that assist with the measurement of “the ability to maintain or recover physical function” or “bounce back” following health stressors or injury.

- Measurement of functional reserve or physiological resilience in older persons
- Development of new mathematical modeling of accelerometry or other complex mobility-related output that can be adapted to measure complexity using nonlinear dynamics as potential methodology to measure resilience.
- Development of clinic-based uses of physical performance measurement capabilities
- Development of new methods of utilizing existing mobile applications.

Investigators are strongly encouraged to contact the OAIC Physical Measures Core Leaders to discuss project ideas and explore ways to maximize suitability prior to submitting a letter of
interest or proposal. https://sites.duke.edu/centerforaging/claude-d-pepper-older-americans-independence-center/cores/

Duration and Funding
The Health Innovation Technology Award is co-sponsored by the Duke Institute for Health Innovation. The duration of the project may be for one or two years. The budget request for Health Technology Development Awards is $10,000 per year in direct costs.

Deadlines and Timeline
Letter of Interest (LOI) and Principal Investigator NIH Biosketch due Nov 1, 2017
Applicants will be notified by Dec 15, 2017 if they are invited to submit a full application
Full application will be due Feb 15, 2018
Funding decisions will be made by April 15, with funding received Summer 2018

Content
The Health Innovations project LOI should be a maximum of 2 pages and must include the following items:
1) Proposed title of the project; name of principal investigator and key co-investigators
2) Summary of objective, significance, innovation, design/methods
3) Relevance to the OAIC theme of physical resilience and reserve and plans to utilize OAIC Cores
Principal investigator’s NIH-style biosketch should be submitted with LOI.

After our review of LOIs, we will notify applicants by Dec 15, 2017 if full application is invited. Full applications will be due Feb 15, 2018 and will include:
1) Scientific Section - Study aims, scientific justification/background, study design and methods, analysis plan, and plans for external funding given the data from the pilot study. Investigators should describe how one or more OAIC Cores would be utilized to accomplish the proposed work and any other resources available to the investigator to ensure the success of the pilot study. This section is limited to no more than 5 pages, Arial 11 point font, not including references.
2) References
3) Investigator NIH Biosketch(s)
4) Budget and Budget Justification

Please send Health Innovations project proposals via email to:

Jamazina Smith
Program Administrator
Duke Center for the Study of Aging and Human Development
Box 3003, D.U.M.C.
Phone: 919-660-7502
Please contact Ms. Smith for any administrative questions

For programmatic questions, please contact:

Miriam C. Morey, Ph.D. Physical Measures Core Leader
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Box 3003, D.U.M.C.
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