

[Division of Research \(/\)](#)

[MENU](#)

Wayne State receives \$3.6 million NIH grant to advance understanding of Alzheimer's and other dementias

September 14, 2016

DETROIT – Wayne State University has received a \$3.6 million grant from the National Institute on Aging of the National Institutes of Health for a project that will advance knowledge of brain aging, its relation to cognitive performance and the role of common vascular and metabolic risk factors in shaping the trajectories of aging. The funded project extends the longitudinal study of healthy volunteers from the metro Detroit area.

According to the principal investigator, Naftali Raz, Ph.D., professor of psychology and director of the lifespan cognitive neuroscience program in the Institute of Gerontology at Wayne State University, the focus of the study is on healthy aging.

“Although dementia is a major health concern and its prevention is the ultimate aim of many leading programs of basic and clinical research, advancement toward that goal necessitates understanding of normal aging,” emphasized Raz.

“The main focus of this project —which has been funded by the National Institute on Aging for the past 23 years — is elucidating the relationships between changes in in-the-brain properties (regional volume, cortical thickness, iron content, energy metabolism, myelin content and connectivity among the brain regions), changes in cognitive performance across multiple domains (memory, speed of processing, complex reasoning skills), as well as modifying effects of risk factors for vascular and metabolic disease on these relationships,” explained Raz.

The research involves noninvasive evaluation of the brain through MRI scans, assessment of cognitive performance, and examination of blood biomarkers and genetic variants with known links to vascular and metabolic diseases.

Over the past two decades, Raz — along with his research team, colleagues and collaborators Jeffrey Stanley, Ph.D. and E. Mark Haacke, Ph.D. of Wayne State, Ulman Lindenberger, Ph.D. of Max Planck Institute for Human Development (Berlin, Germany) and

Paolo Ghisletta, Ph.D. of the University of Geneva, Switzerland — has been charting the natural course of aging in healthy adults and determining the neural mechanism of change. Studies from the Raz lab have established increased vulnerability to aging in distinct brain regions — hippocampus, orbital-frontal cortex, entorhinal/parahippocampal cortex and cerebellum — and suggested a role of common vascular risk factors, such as hypertension, as well as genetic markers of increased pro-inflammatory response in exacerbating the negative changes. In the pioneering longitudinal study, Raz and his then-graduate student, Ana Daugherty, found that an increase in iron content of the striatum exacerbates shrinkage of that region and affects cognitive performance in healthy adults.

“This study is a good example of just how critical longitudinal studies are for understanding the mechanisms of adult development and aging,” said Raz. “Identifying vascular and metabolic risk factors that exacerbate brain aging is particularly important because many of them can be mitigated by lifestyle changes and behavioral interventions.”

“Dr. Raz’s research has made important strides in furthering our understanding of dementia and Alzheimer’s disease,” said Gloria Heppner, Ph.D., associate vice president for research at Wayne State University. “It is our great hope that Dr. Raz’s work will one day offer new treatments to reverse or, at a minimum, stop the progression of these syndromes.”

The project number for this grant is AG011230.

###

About Wayne State University

Wayne State University is one of the nation’s pre-eminent public research universities in an urban setting. Through its multidisciplinary approach to research and education, and its ongoing collaboration with government, industry and other institutions, the university seeks to enhance economic growth and improve the quality of life in the city of Detroit, state of Michigan and throughout the world. For more information about research at Wayne State University, visit research.wayne.edu (file:///C:/ag5468Downloadsresearch.wayne.edu).

[Return to news \(/news/\)](#)

[Research Development \(/development/index.php\)](#)

[\(/development/index.php\)](#)

[\(/development/index.php\)Office of the Vice President for Research \(/about/index.php\)](#)

[\(/about/index.php\)](#)

[\(/about/index.php\)Sponsored Program Administration \(/spa/index.php\)](#)

[\(/spa/index.php\)](#)

[\(/spa/index.php\)Technology Commercialization \(/techtransfer/index.php\)](#)

[\(/techtransfer/index.php\)](#)

[\(/techtransfer/index.php\)Research Integrity \(/integrity/index.php\)](#)

[\(/integrity/index.php\)](#)

[\(/integrity/index.php\)](#)

[\(/integrity/index.php\)](#)

[Undergraduate Research \(http://uop.wayne.edu\)](http://uop.wayne.edu)

[The Graduate School \(http://wayne.edu/gradschool/\)](http://wayne.edu/gradschool/)
[\(/integrity/index.php\)](http://integrity/index.php)

[Postdoctoral Office \(http://wayne.edu/gradschool/postdoc/\)](http://wayne.edu/gradschool/postdoc/)
[\(/integrity/index.php\)](http://integrity/index.php) [Core Services at WSU \(http://research.wayne.edu/core-services.php\)](http://research.wayne.edu/core-services.php)

[The Front Door for Business Engagement \(http://frontdoor.wayne.edu\)](http://frontdoor.wayne.edu)
[Forms \(http://research.wayne.edu/forms.php\)](http://research.wayne.edu/forms.php)

[IBio \(http://ibio.wayne.edu\)](http://ibio.wayne.edu)
[Policies \(http://research.wayne.edu/policies.php\)](http://research.wayne.edu/policies.php)

[University Research Corridor \(http://urcmich.org/\)](http://urcmich.org/)
[eProtocol \(http://research.wayne.edu/eprotocol\)](http://research.wayne.edu/eprotocol)

[Directory \(http://research.wayne.edu/directory.php\)](http://research.wayne.edu/directory.php)

[Integrative Biosciences Center \(IBio\) \(http://ibio.wayne.edu/\)](http://ibio.wayne.edu/)

[Research Communications \(http://research.wayne.edu/about/communications/index.php\)](http://research.wayne.edu/about/communications/index.php)



[Researcher's Dashboard \(http://research.wayne.edu/spa/dashboard/index.php\)](http://research.wayne.edu/spa/dashboard/index.php)
<https://twitter.com/WSUResearch> <https://www.facebook.com/Research-Wayne-State-University-146321909992/>

[Seminars and training \(http://research.wayne.edu/seminars-training/\)](http://research.wayne.edu/seminars-training/)

<https://www.youtube.com/waynestateuniversity>

Division of Research (//)

5057 Woodward, Suite 6409 | Detroit, MI 48202 ([map \(http://maps.wayne.edu/view/#5057-woodward\)](http://maps.wayne.edu/view/#5057-woodward))

(313) 577-5600

(313) 577-3626 fax

research@wayne.edu (<mailto:research@wayne.edu>)

[Privacy and University Policies](http://wayne.edu/policies/) (<http://wayne.edu/policies/>)

[Wayne State University](http://wayne.edu/) (<http://wayne.edu/>) © 2016