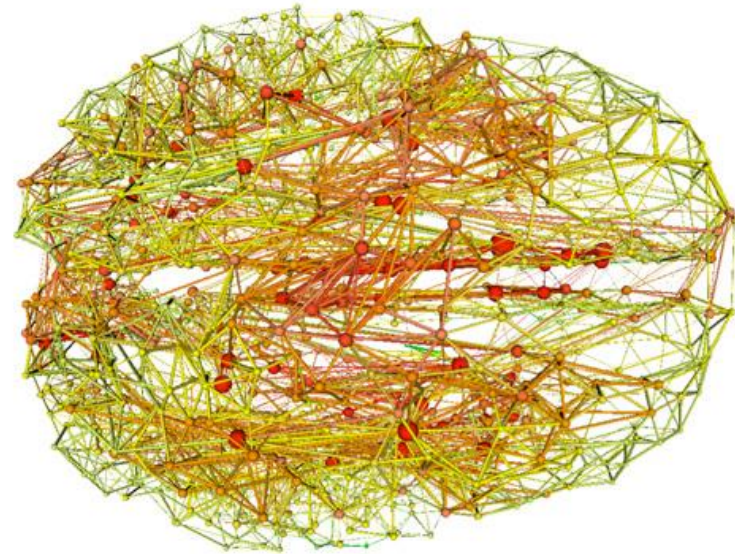




Prof. Erik Scherder
Dept. of Clinical Neuropsychology
VU university
Amsterdam, the Netherlands

Ouder worden...



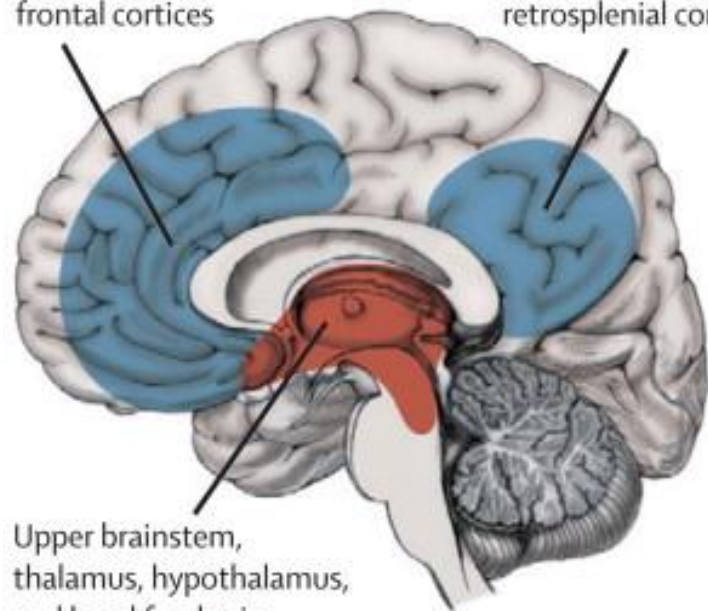
(Martijn vd Heuvel)

Alles is gezondheid...

A

Anterior cingulate
and medial
frontal cortices

Precuneus, posterior
cingulate, and
retrosplenial cortices

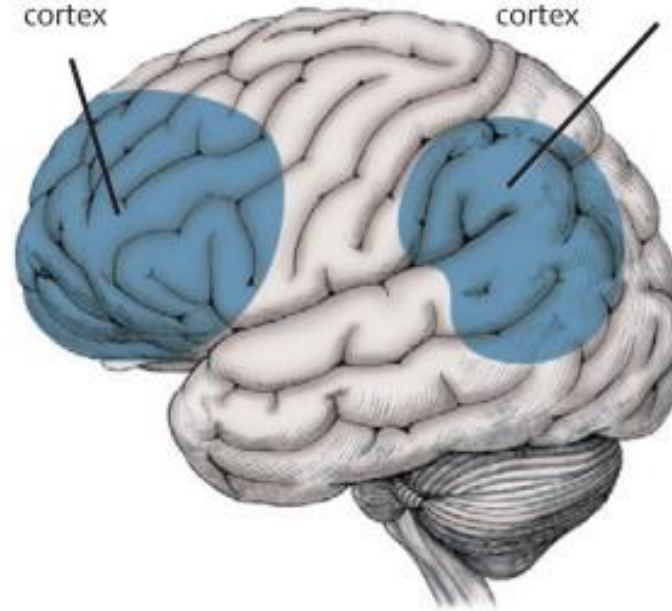


Upper brainstem,
thalamus, hypothalamus,
and basal forebrain

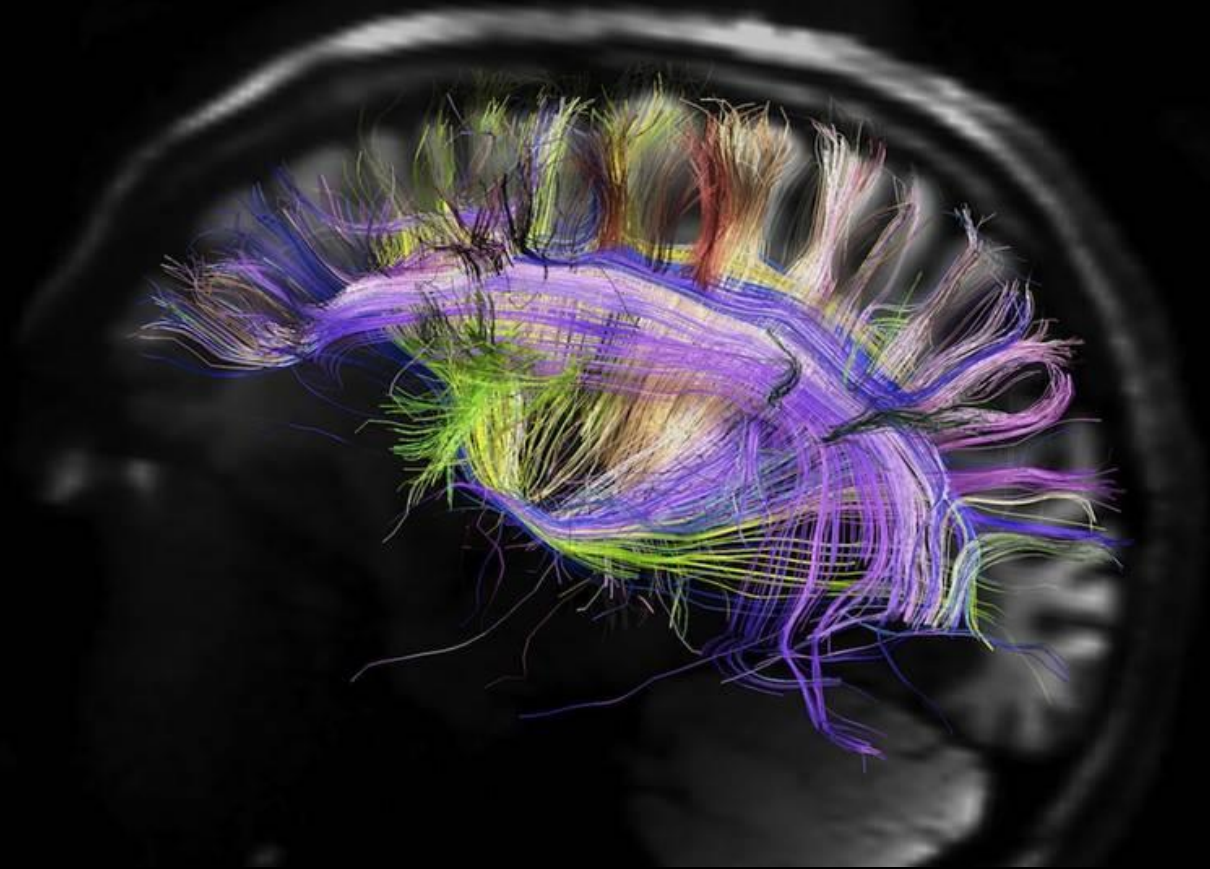
B

Lateral frontal
association
cortex

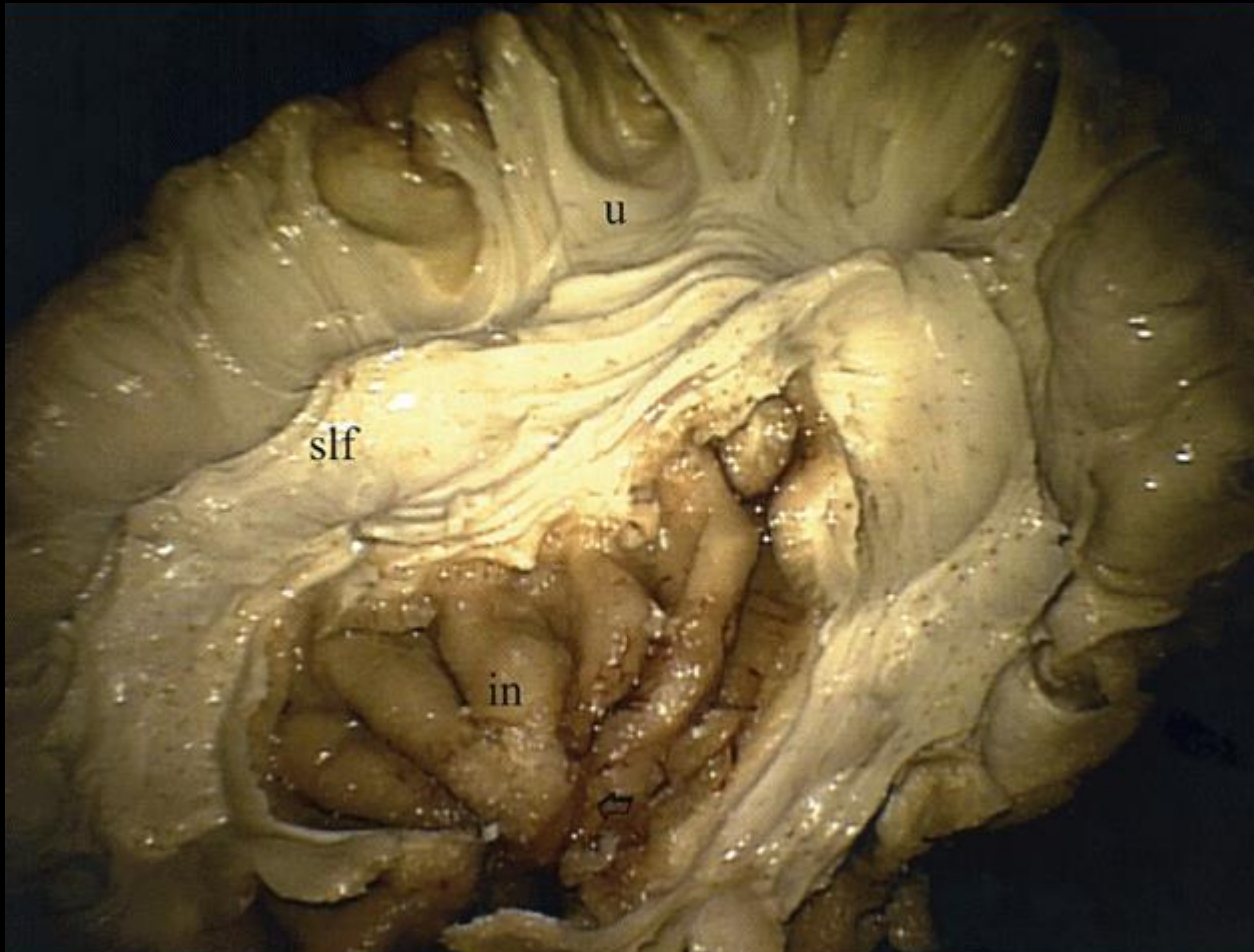
Lateral parietal
association
cortex

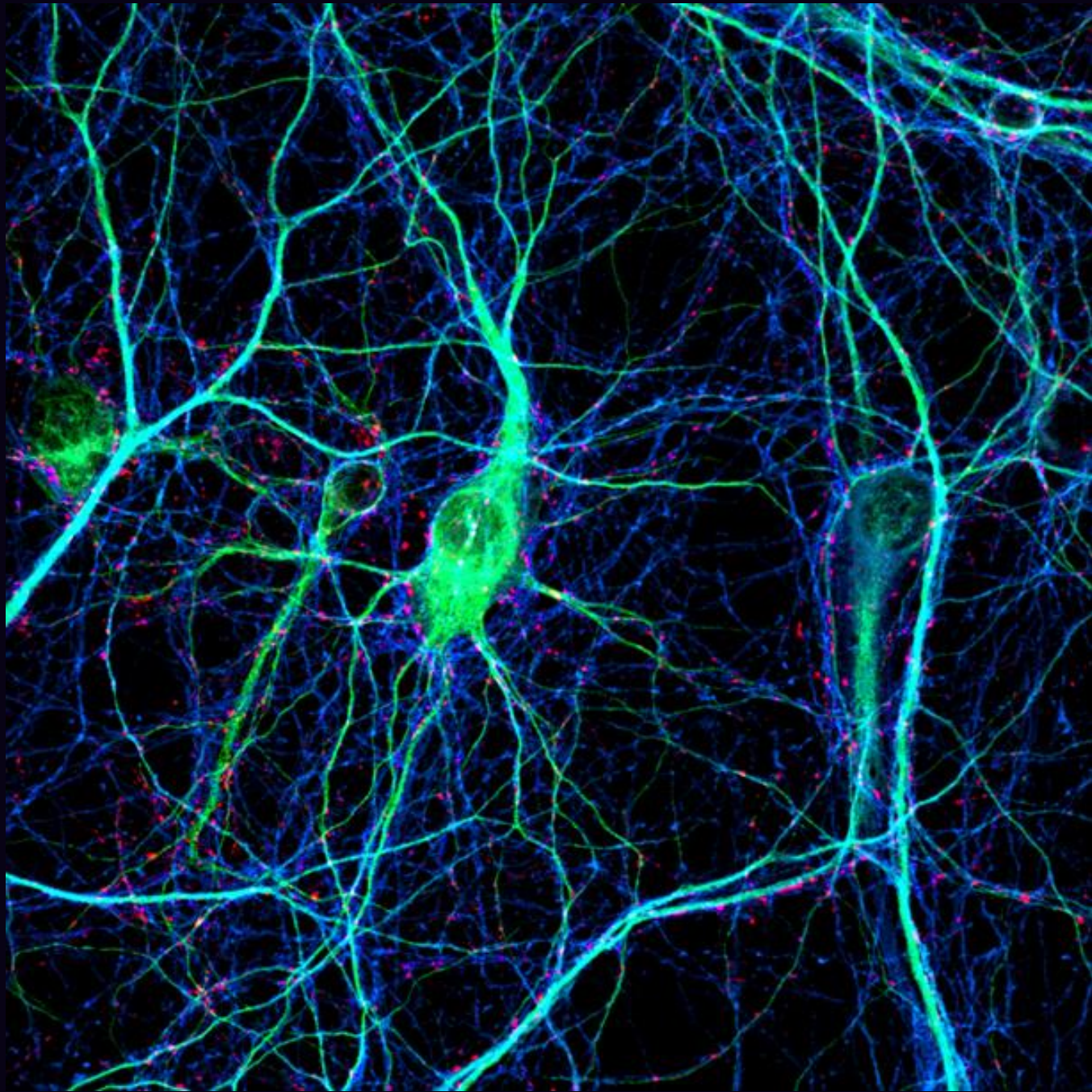


Fasciculus longitudinalis superior



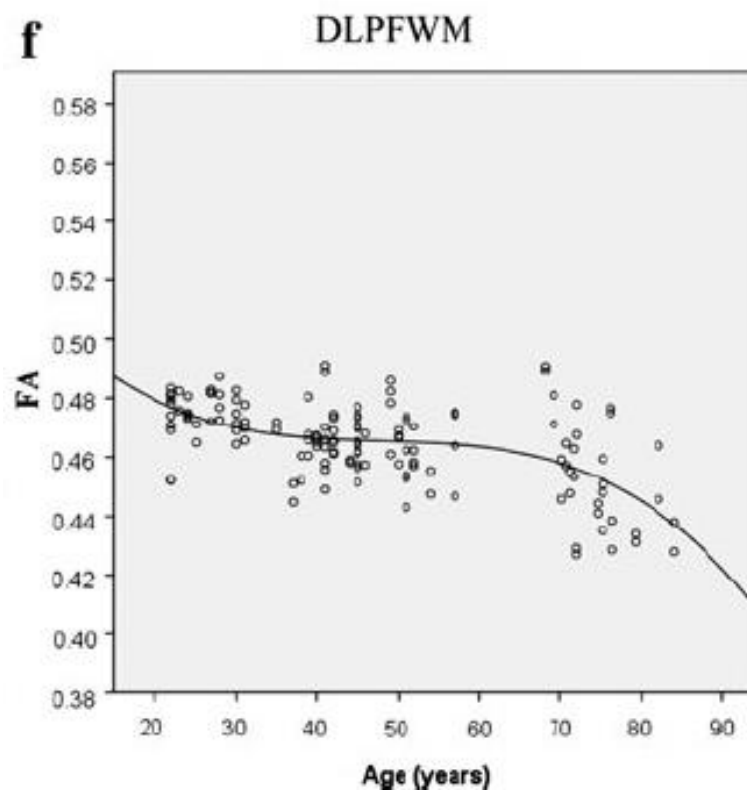
Tseng et al., 2013. NeuroImage, 82, 510-516.

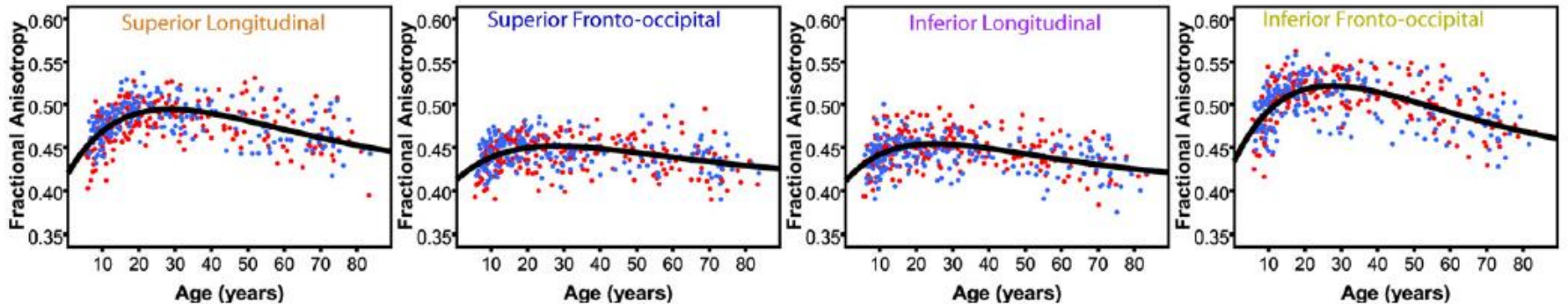
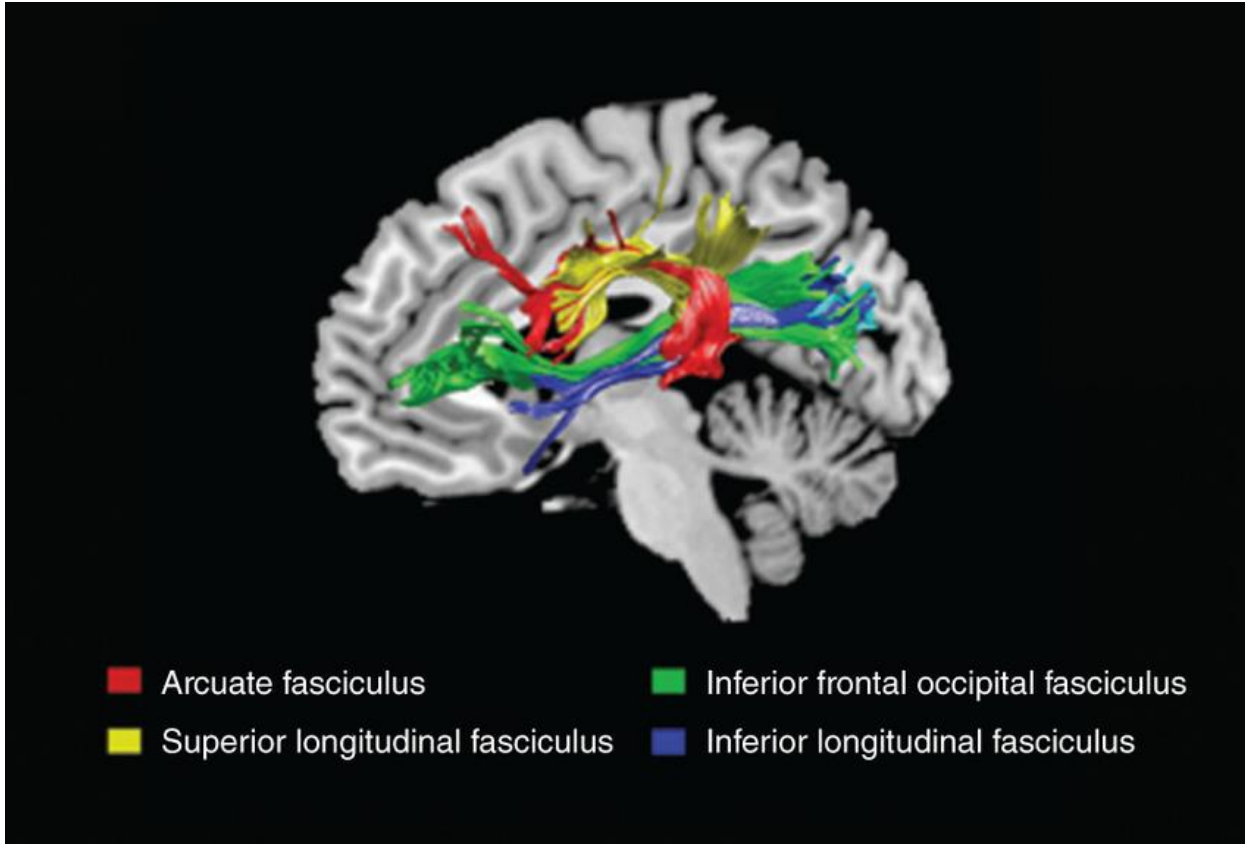




Structural organization of the prefrontal white matter pathways in the adult and aging brain measured by diffusion tensor imaging

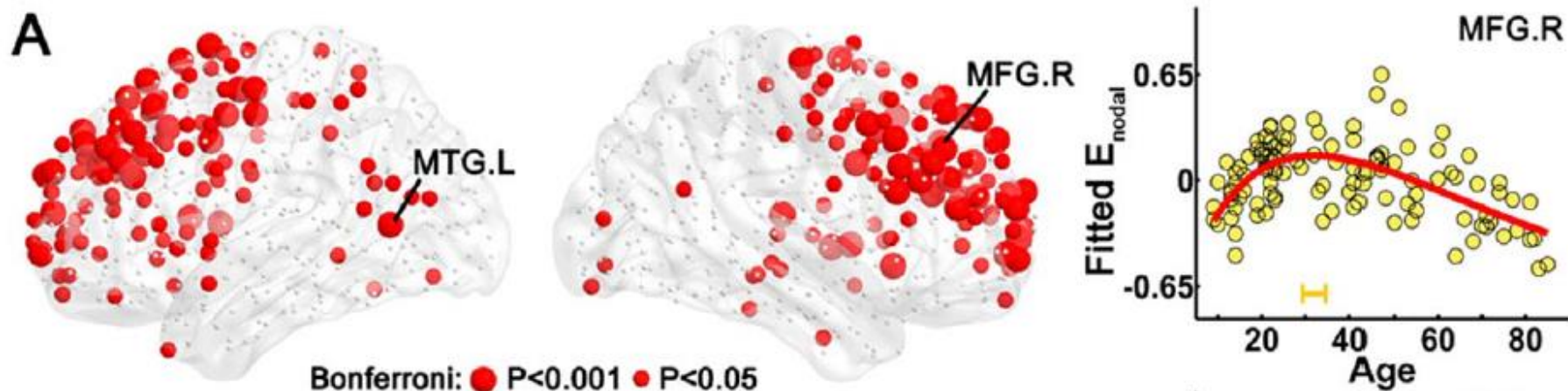
Nikolai Malykhin · Sana Vahidy · Stijn Michielse ·
Nick Coupland · Richard Camicioli ·
Peter Seres · Rawle Carter





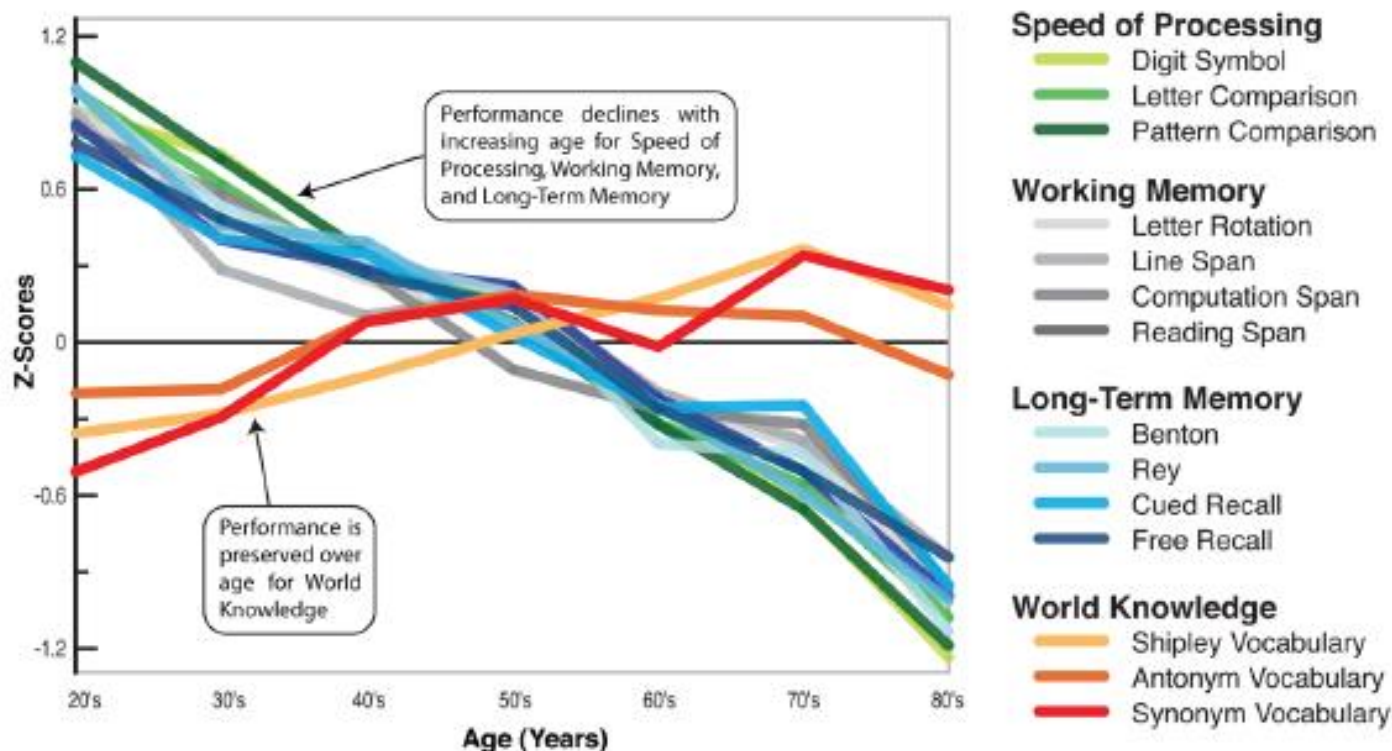
Age-Related Changes in the Topological Organization of the White Matter Structural Connectome Across the Human Lifespan

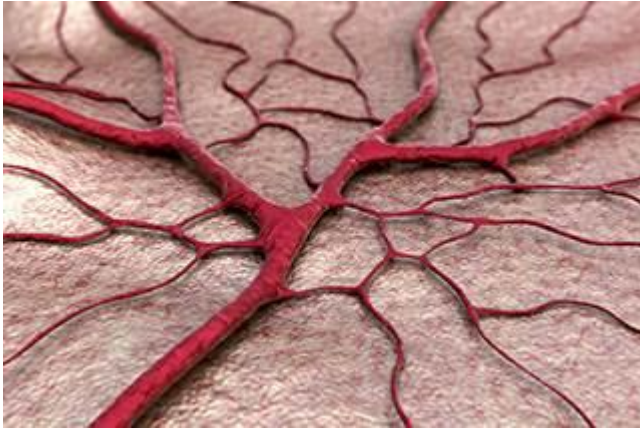
Tengda Zhao,^{1,2} Miao Cao,^{1,2} Haijing Niu,^{1,2} Xi-Nian Zuo,^{2,3,4,5}
Alan Evans,⁶ Yong He,^{1,2} Qi Dong,^{1,2} and Ni Shu^{1,2*}



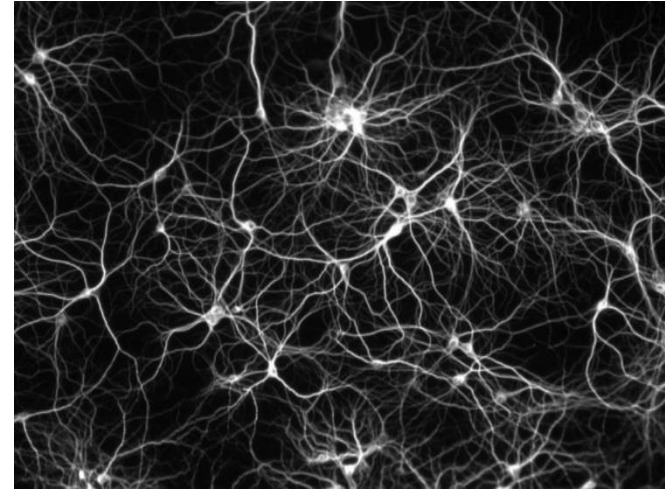
The Adaptive Brain: Aging and Neurocognitive Scaffolding

Denise C. Park¹ and Patricia Reuter-Lorenz²



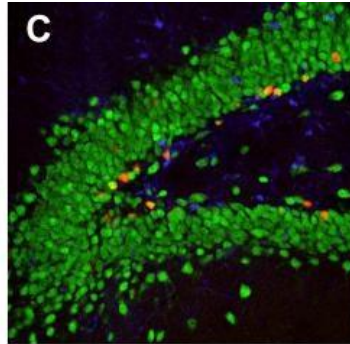
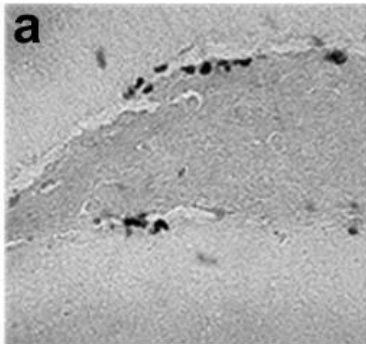


Angiogenesis

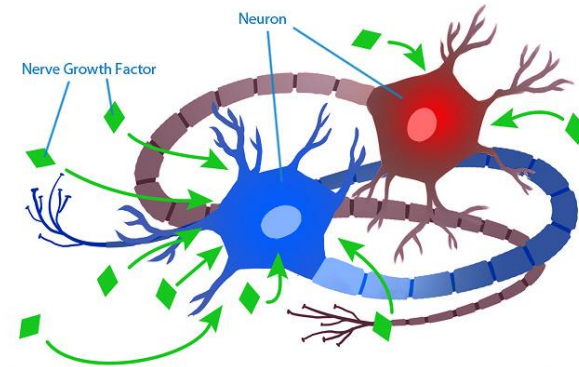
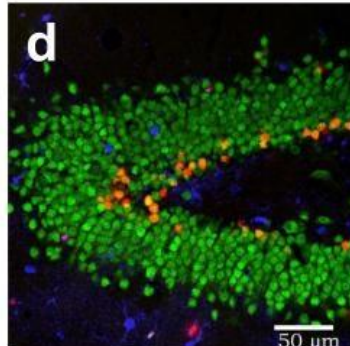
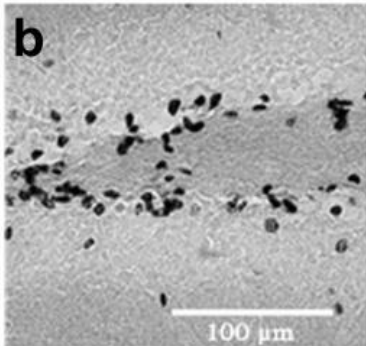


Synaptogenesis

Controls



Runners

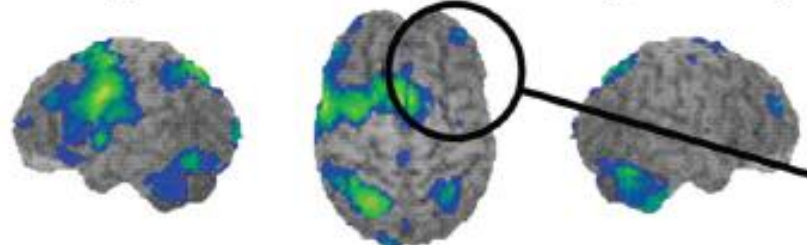


Nerve Growth Factors (shown in green) is required by neurons in order to survive. As they are a limited extracellular resource, some neurons (shown in blue) may uptake a disproportionate share of survival factors, leading to the eventual death of neighboring neurons (shown in red).

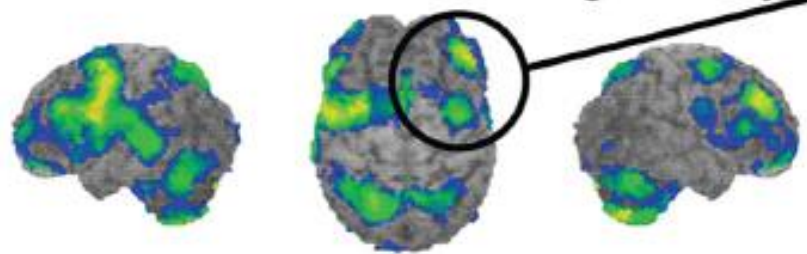
Neurogenesis

Lazarov et al., 2010

Young Adults - Verbal Working Memory



Older Adults - Verbal Working Memory



More frontal bilateral activity in older adults during a verbal working memory task (left) and in older adults with higher performance in a long-term memory task (right)

Young

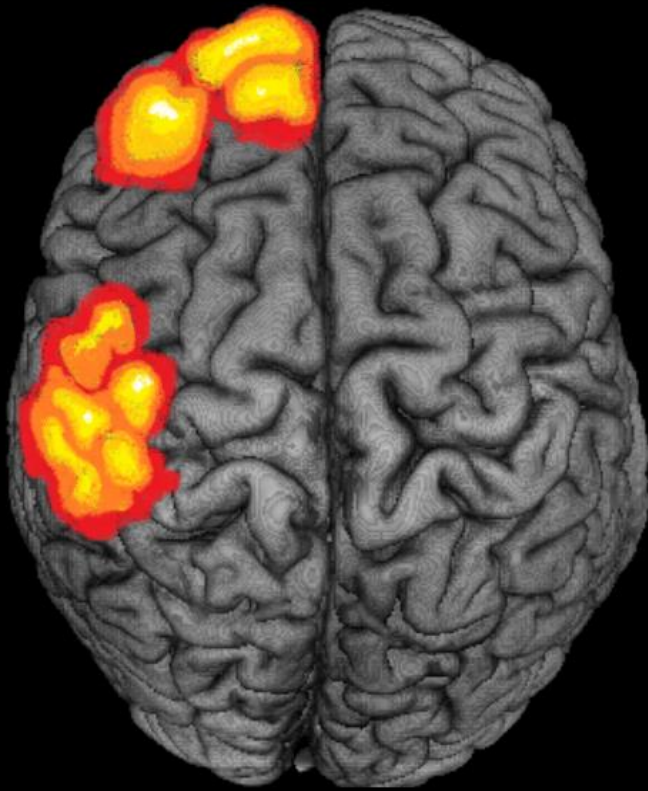


Old - Low

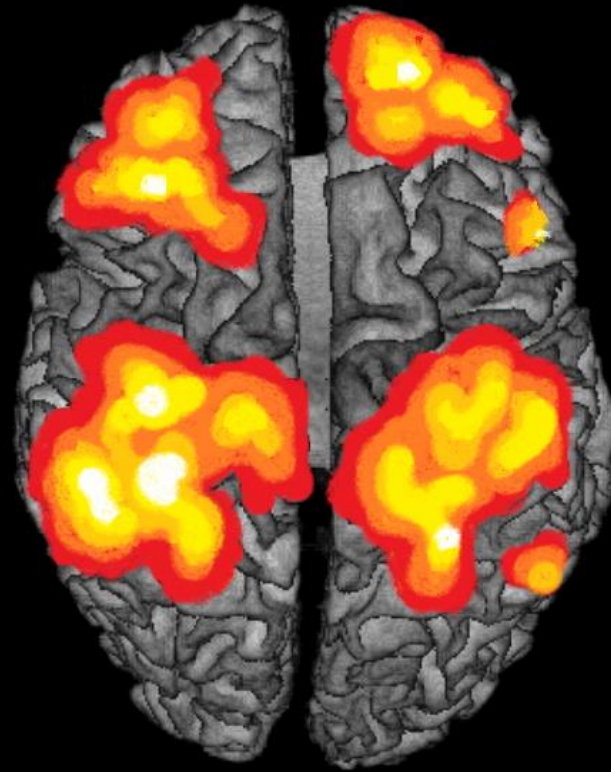


Old - High





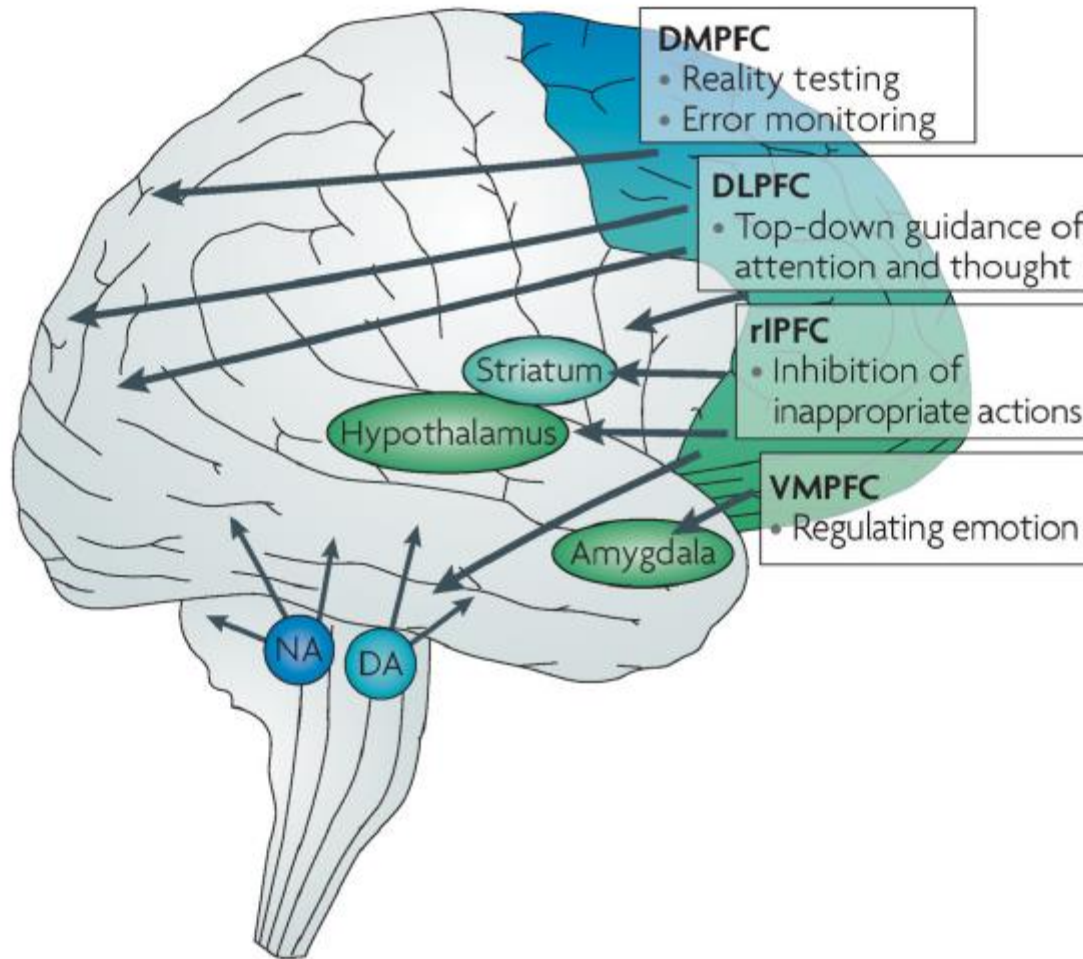
AGING

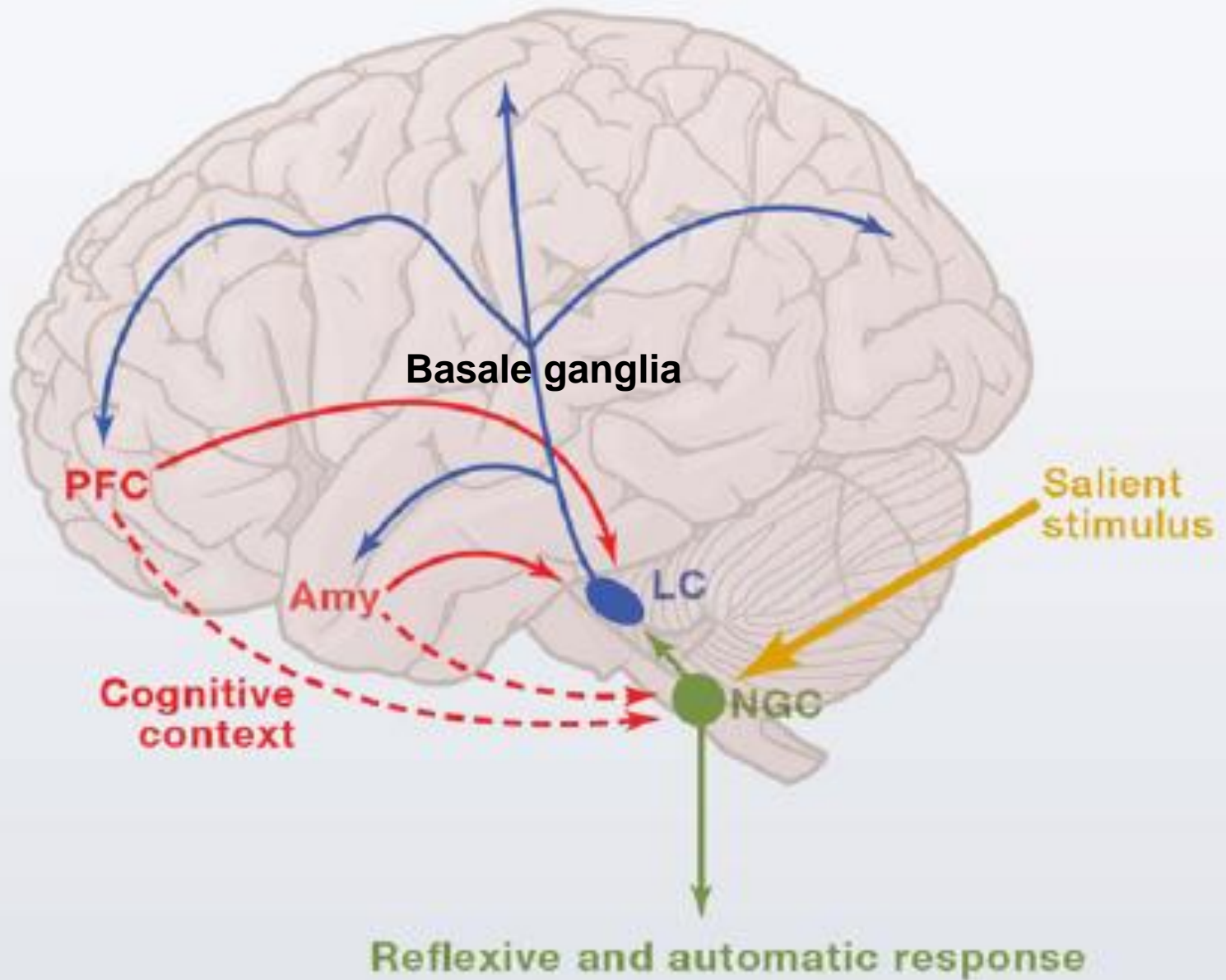


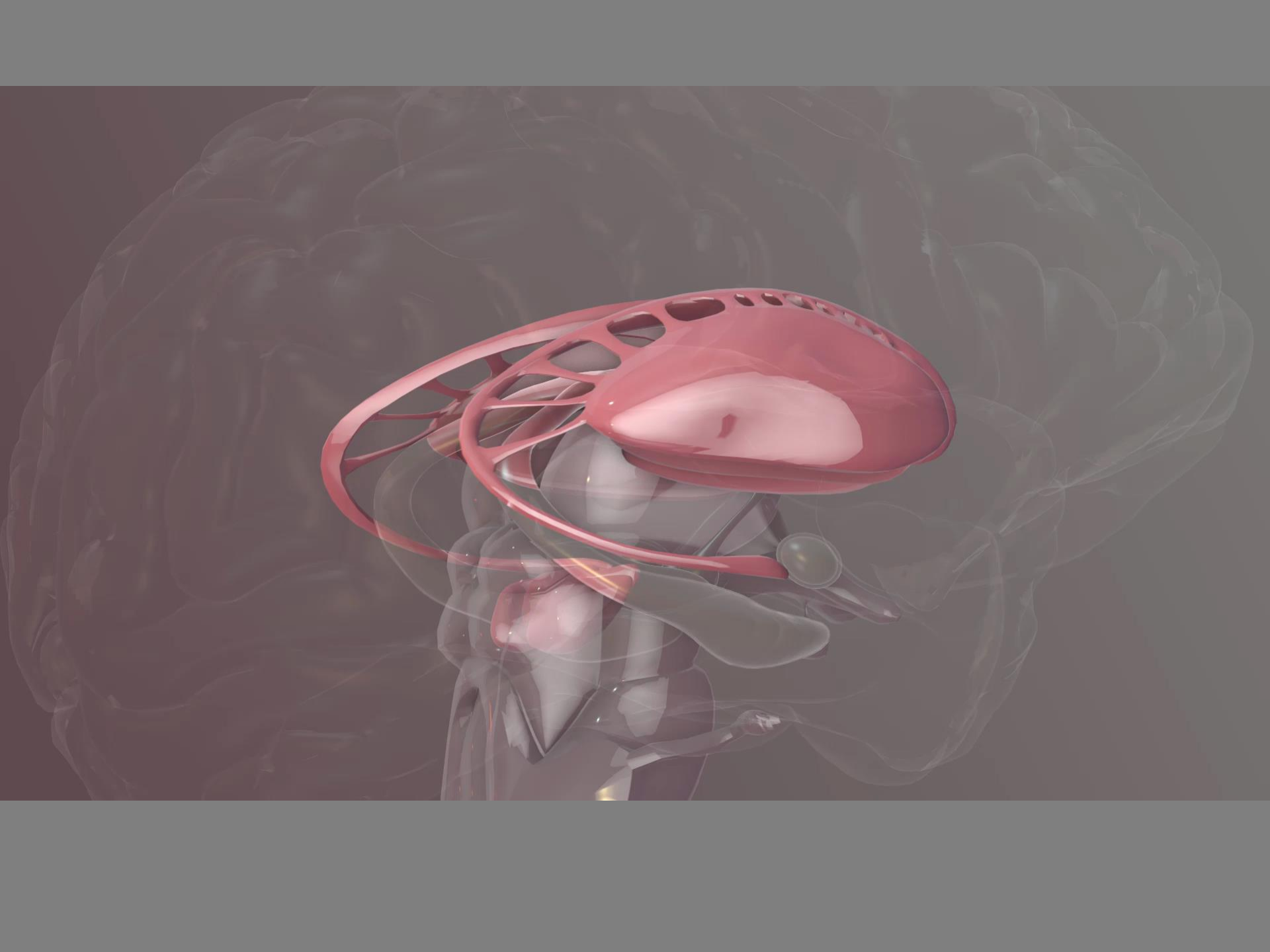
ALZHEIMER'S DISEASE

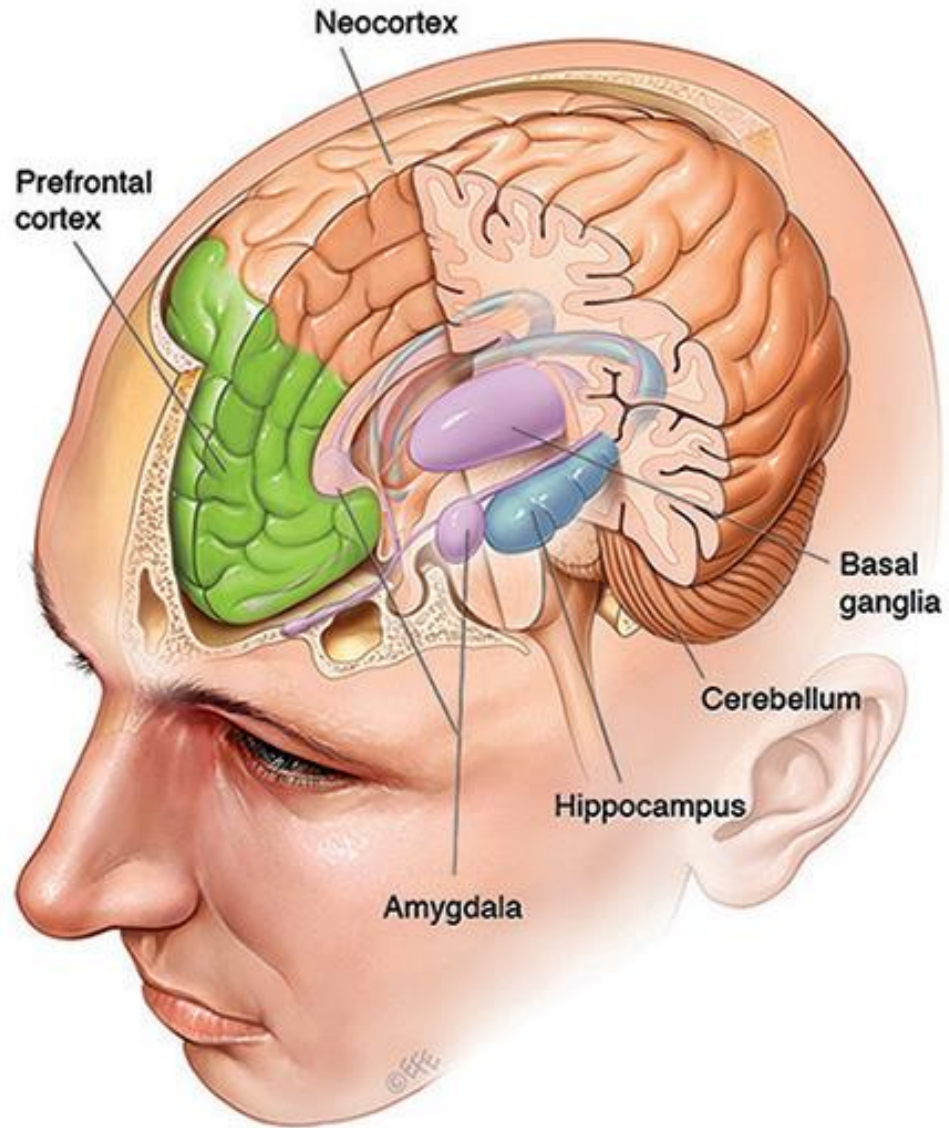
Figure 5.3. Intra- and Interhemispheric compensaion in patients with Alzheimer's disease during the performance of a task, compared to activity in brain areas of elderly persons without dementia. Compensatory networks in AD have more of a global character, as seen above.

a Prefrontal regulation during alert, non-stress conditions





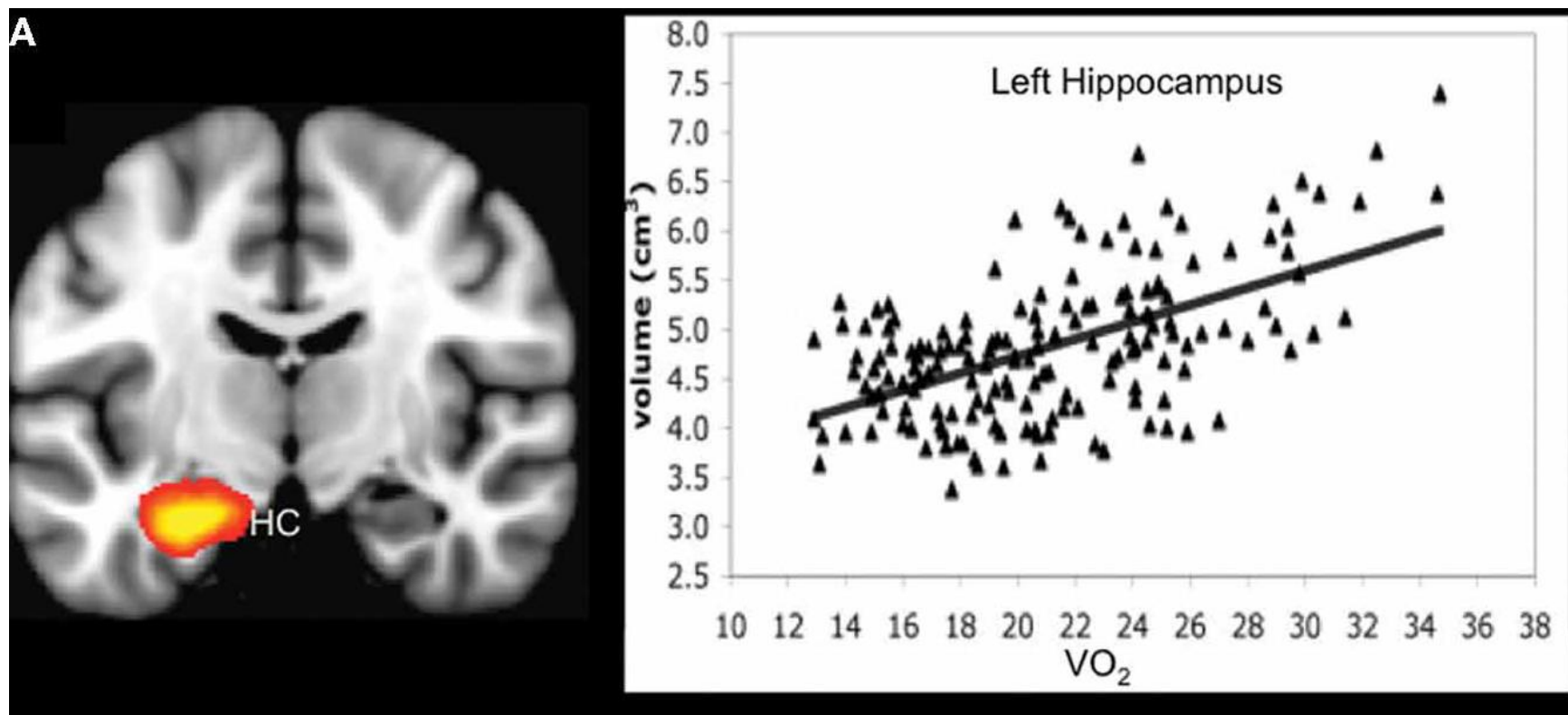






A review of cardiorespiratory fitness-related neuroplasticity in the aging brain

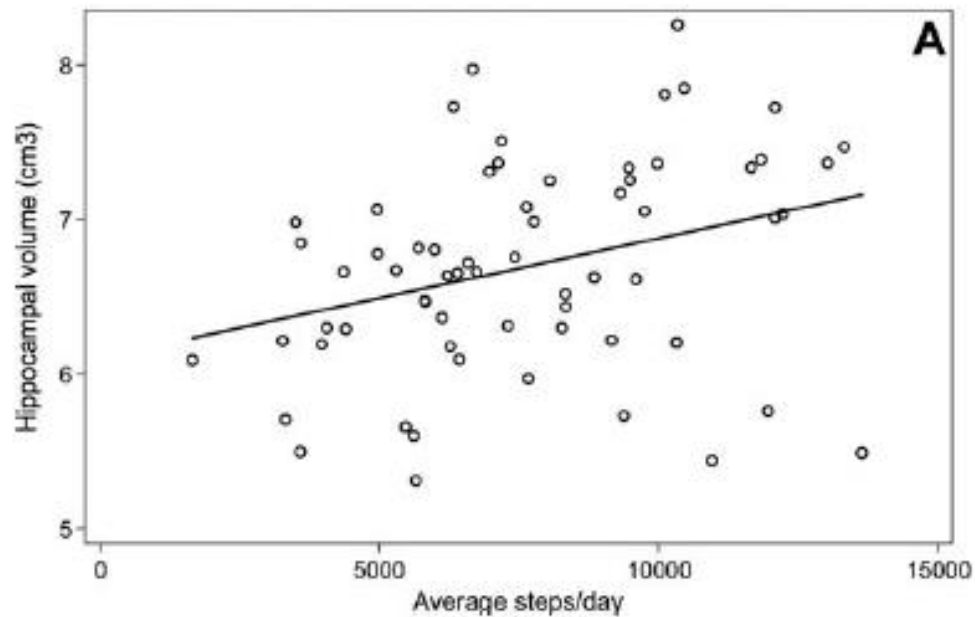
Scott M. Hayes^{1,2,3*}, Jasmeet P. Hayes^{3,4}, Margaret Cadden¹ and Mieke Verfaellie^{1,3}



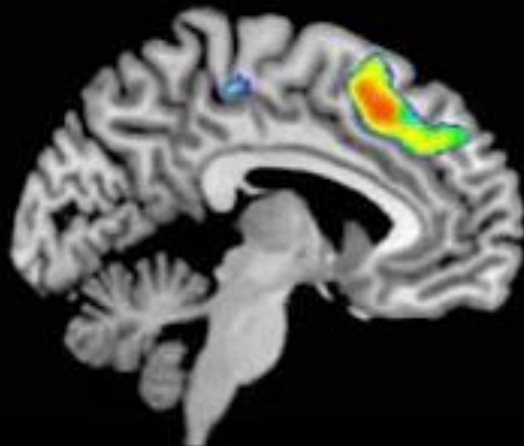
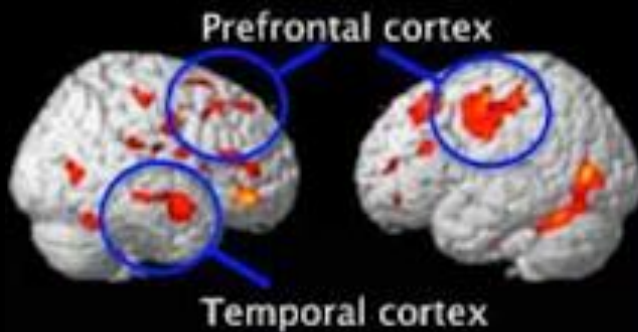
Low-Intensity Daily Walking Activity is Associated With Hippocampal Volume in Older Adults

Vijay R. Varma,^{1,2*} Yi-Fang Chuang,^{3,4} Gregory C. Harris,^{1,2} Erwin J. Tan,⁵ and Michelle C. Carlson^{1,2*}

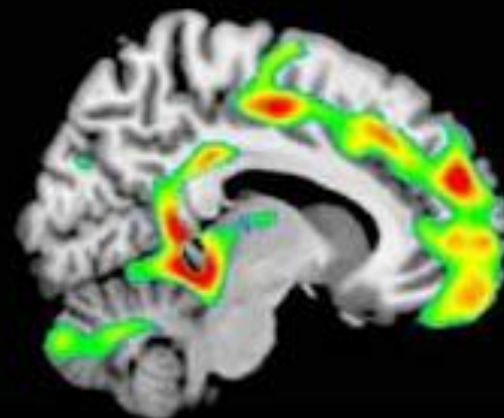
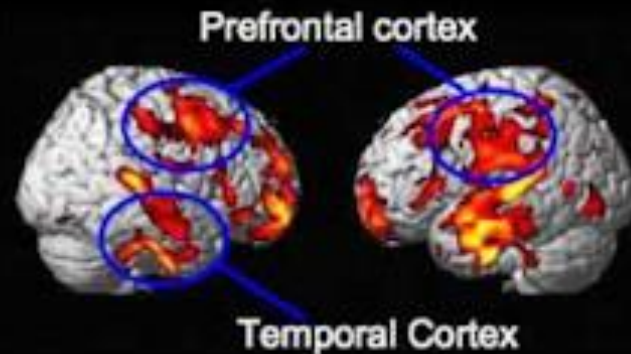
Hippocampus



**Positive Effects of Walking
in Healthy Aging (n = 299)**

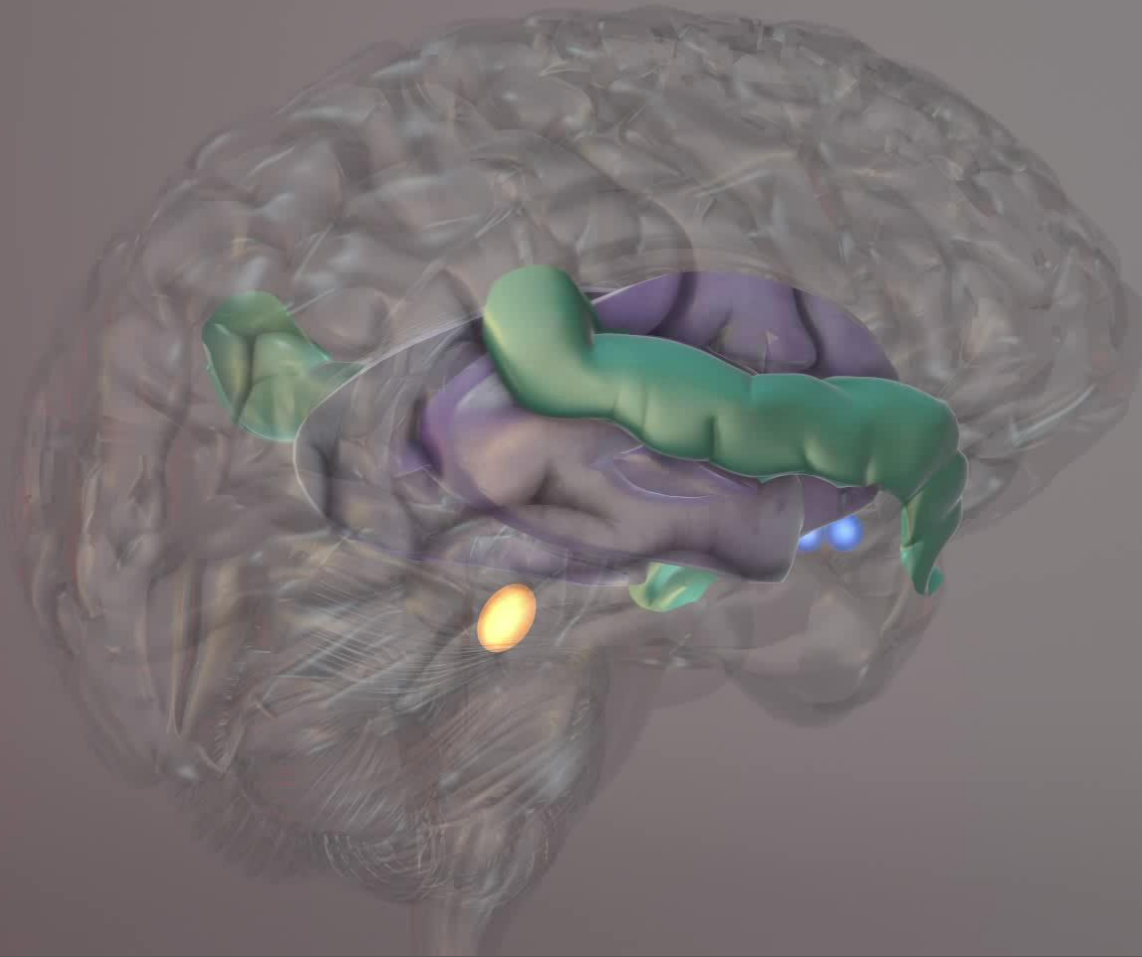


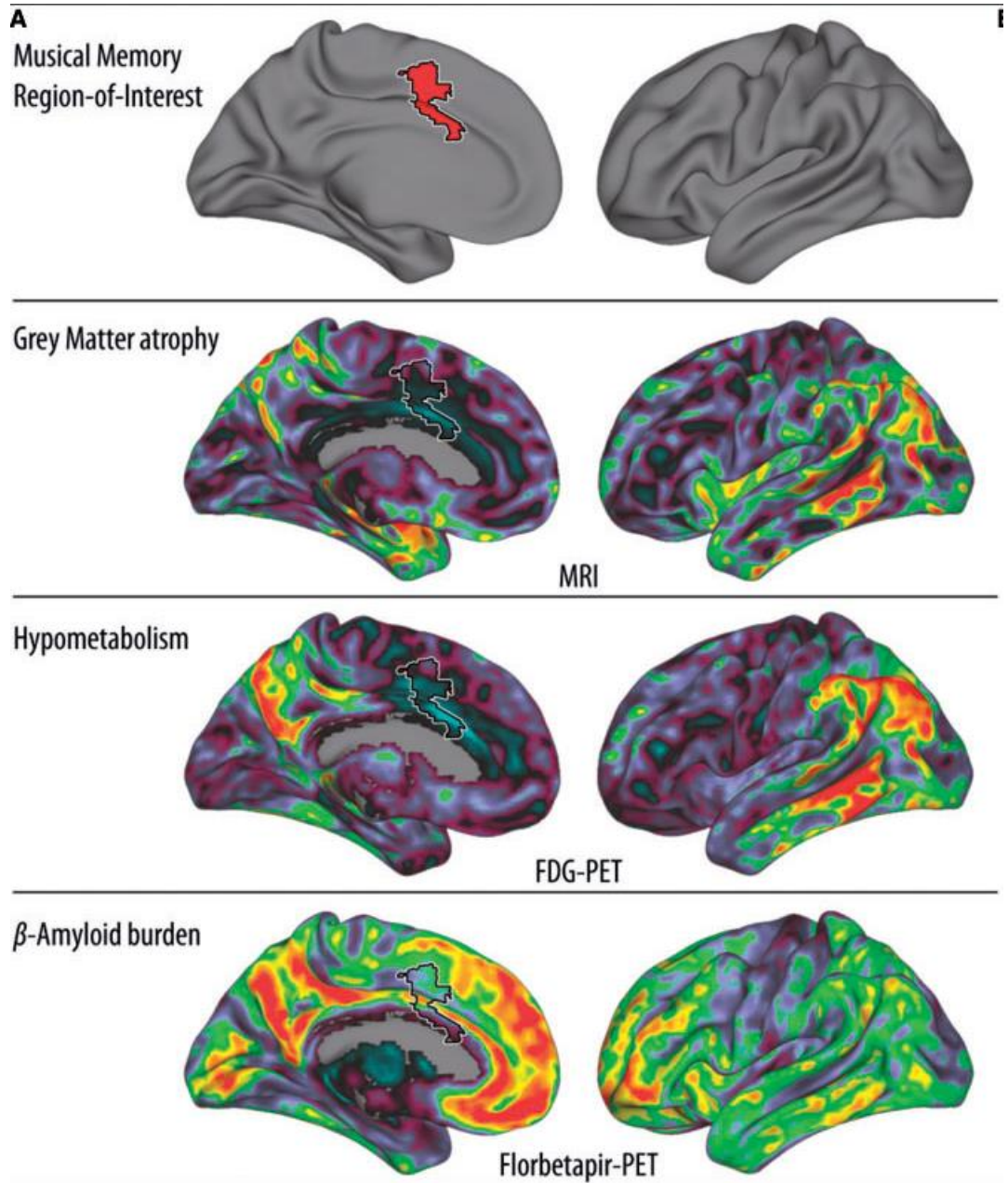
**Positive Effects of Walking in
Cognitive Impairment (n = 127)**

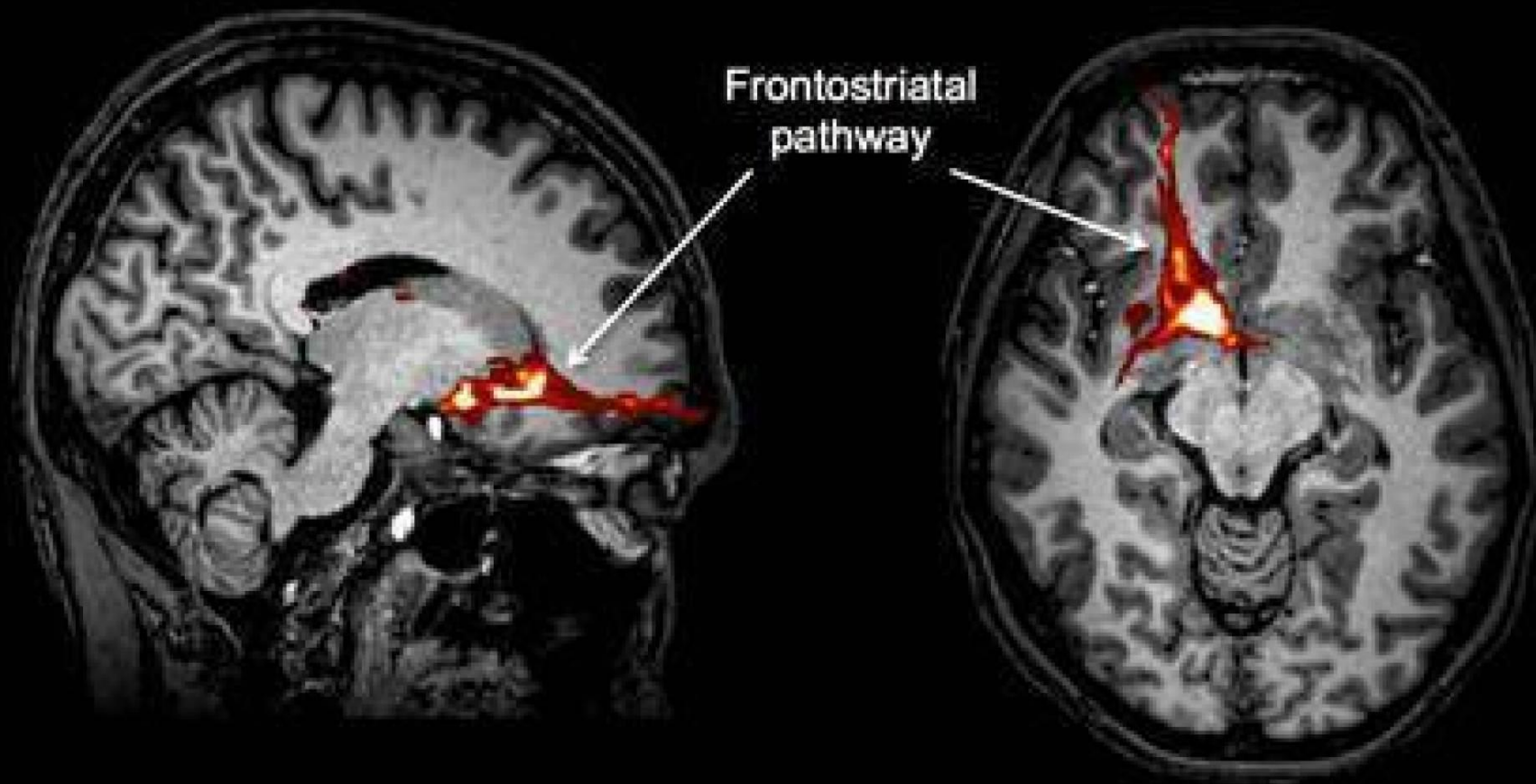




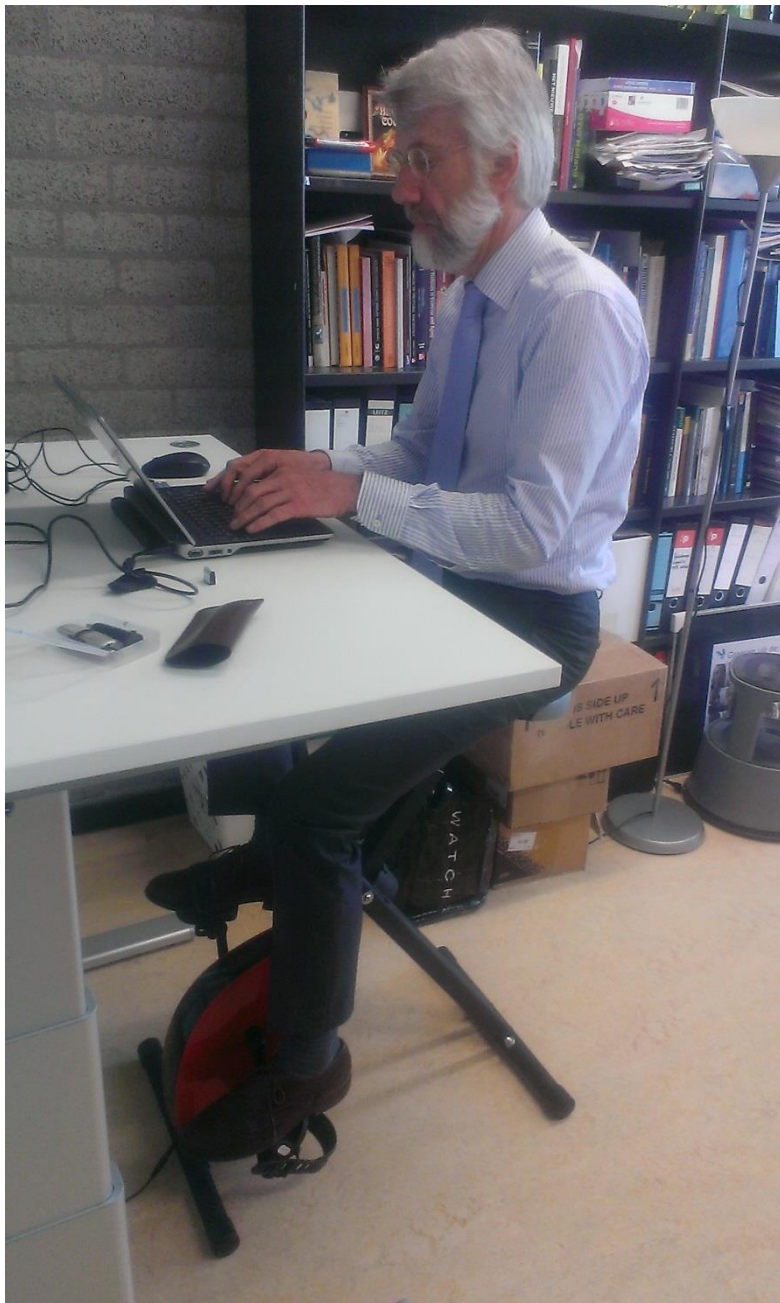
Schindler's list







Initiatief nemen en motivatie



Dank voor uw aandacht!

