University of Nebraska Medical Center
Nebraska Medicine

Active research grants – Tony Wilson, Ph.D.

(With the addition of the new research-dedicated MRI, this should increase)

R01 MH103220-01, Wilson (PI) **08/01/2014 – 05/31/2019**
NIH/NIMH
Neurophysiological Markers of HAND and the Impact of Aging: Evidence from MEG
Role: Principal Investigator
This award uses brain imaging to evaluate the neural mechanisms of cognitive impairment in persons with HIV-infection. A component of the study examines how HIV-infection differentially modulates the decline in cognitive and neural function associated with normal healthy aging.
Total Dollars: $2,458,731

NSF #1539067, Calhoun, Stephen, Wang, & Wilson (Co-PIs) **08/01/2015 – 07/31/2019**
National Science Foundation (NSF)
Developmental Chronnecto-Genomics (Dev-CoG): A Next Generation Framework for Quantifying Brain Dynamics and Related Genetic Factors in Childhood"
Role: Co-Principal Investigator
This award supports a longitudinal study of structural and functional brain development in typically-developing 9-14 year-old youth. Genetic data, structural/functional/diffusion MRI, and MEG will be collected annually on ~225 youth at UNMC (PI: Wilson) and the Mind Research Network (PI: Calhoun/Stephen). Multimodal imaging and genetic data will be processed using advanced modeling approaches developed through the project.
Total Dollars: $5,858,210

AHA 16-CSA-28580000, Schultz & Wilson (Co-PIs) **07/01/2016 – 06/30/2019**
American Heart Association (AHA), Collaborative Sciences Award
Exploring the Neurological Basis of Dyspnea and its Impact on Exercise Intolerance in Heart Failure
Role: Co-Principal Investigator
This translational study will identify the cortical brain circuits that underlie the sensation of dyspnea in humans with/without chronic heart failure (CHF) using MEG, and determine whether alterations in these circuits are linked to reduced exercise capacity in CHF.
Total Dollars: $750,000

R01 MH116782-01, Wilson (PI) **04/01/2018 – 01/31/2023**
NIH/NIMH (parent award), NIH/NIA (supplemental award)
The Progressive Elevation of Spontaneous Cortical Activity in HAND (PESCAH) Project
Role: Principal Investigator
This award uses an advanced dynamic functional brain mapping approach based on MEG and MRI to evaluate the role of two novel neurophysiological parameters, previously shown to be implicated in aging, in the pathophysiology of HAND, and its progression. A large supplemental (S1) award has allowed us to broaden this study to include groups with Alzheimer's and MCI.
Total Dollars: $3,015,940

-more-

R01 MH118013-01, Wilson & Becker (MPI) **08/01/2018 – 04/30/2023**
NIH/NIMH
Multimodal Imaging of NeuroHIV Dynamics (MIND): An Omaha-Pittsburgh Consortium
Role: Principal Investigator (Contact MPI)
This award uses advanced MEG, structural MRI, functional MRI, diffusion-weighted MRI, and 7-Tesla GABA imaging to evaluate the neuro-circuitry, neuro-dynamics, and neuro-chemistry underlying cognitive impairment in HIV-infected adults and uninfected controls.
Total Dollars: $4,411,244

RF1 MH117032-01, Wilson (PI) **09/01/2018 – 08/31/2022**
NIH/NIMH
The Impact of Spontaneous Cortical Activity on Neural Oscillations and Behavioral Performance: Evidence from High-Definition tDCS and MEG
Role: Principal Investigator
This BRAIN Initiative award supports a multi-pronged program that uses MEG and multimodal MRI to identify whether high-definition electrical brain stimulation modulates cortical activity, which supports cognition and behavior in healthy adults.
Total Dollars: $2,448,668

R01 DA047828-01, Wilson, Becker & Fox (MPI) **09/15/2018 – 06/30/2023**
NIH/NIDA
Signatures of Cannabis Abuse in NeuroHIV (SCAN): An Integrated Molecular and Imaging Approach
Role: Principal Investigator (Contact MPI)
The award investigates the impact of chronic cannabis abuse on neuroimaging and molecular markers of brain and cognitive function.
Total Dollars: $4,755,666

Other Active Human Neuroimaging Awards at UNMC:

R01 HD086245-01, Kurz (PI) **09/24/2015 – 06/30/2019**
NIH/NICHD
Sensorimotor Learning in Children with Cerebral Palsy
Role: Co-Investigator
This award uses MRI and MEG imaging to examine the mechanisms of motor learning in typically-developing children and those with cerebral palsy.
Total Dollars: $2,186,711