

# Data Management and Data Analytics Core: DMDA



# DMDA Logo ?



# DMDA Charter: Specific Aims

- Provide and maintain state-of-the-art resources for data management, study management, and reporting to ensure the highest data quality and study integrity and to increase the efficiency and impact of ADCC research.

# DMDA Charter: Specific Aims

- Provide methodological and analytical expertise in study design, biostatistics, other analytical sciences (including measurement, image analysis, modelling, computational biology, statistical genetics, precision medicine, and biomathematics) to ADCC projects.

# DMDA Charter: Specific Aims

- Develop and maintain efficient and secure platforms for data exchange within the Wake ADCC and with NACC, NCRAD, other ADCs, and AD researchers.

# DMDA Charter: Specific Aims

- Collaborate on the dissemination of Wake ADCC study findings and the engagement of targeted cohorts, including African-Americans.

# DMDA Charter: Specific Aims

- Use state-of-the-art and novel analytical methods to mine our data resources from major studies of cognition and AD, to facilitate efficient study design, provide a platform for pooled analyses, and provide resources to foster the development of AD researchers.



# Cognitive Data Holdings (N=64,108)

ACCORD-MIND (N=2997)	Action to Control Cardiovascular Risk in Diabetes Memory in Diabetes Clinical Trial
ADAPT (N=2528)	Alzheimer's Disease Anti-inflammatory Prevention Trial
ARIC (N=14,020)	Atherosclerosis Risk in Communities Study Cohort Neurocognitive Study
CHS (N=5,150)	Cardiovascular Health Study
COSMOS-Mind (M=2,000)	Cocoa Supplement and Multivitamin Outcomes Study of Memory
CoSTAR (N=1,498)	Cognition in the Study of Tamoxifen and Raloxifene
DHS MIND (N=516)	Diabetes Heart Study MIND
GEM (N=3,069)	Ginkgo Evaluation of Memory Study
Health ABC (N=2,509)	Health, Aging, and Body Composition Study
LIFE (N=1,635)	Lifestyle Interventions and Independence for Seniors
LIFE-P (N=102)	Lifestyle Interventions and Independence for Seniors Pilot
Look AHEAD (N=3,914)	Action for Health in Diabetes Trial
MESA (N=800)	Multi-Ethnic Study of Atherosclerosis MIND
PEARL (N=178)	Pesticide Exposure and Age-Related Changes in Cognitive Function
PACE4 (N=447)	CBPR on Pesticide Exposure & Neurological Outcomes for Latinos
SHARP-P (N=73)	Seniors Health and Activity Research Program Pilot Trial
SPRINT-MIND (N=9,361)	Systolic Blood Pressure Intervention Trial
TESTOSTERONE (N=800)	NIA multicenter trial
WHIMS (N=7479)	Women's Health Initiative Memory Study
WHIMS-MRI (N=1403)	Women's Health Initiative Memory Study Magnetic Resonance Imaging Study 1 & 2
WHIMSY (N=1326)	Women's Health Initiative Memory Study of Younger Women
WHISCA (N=2303)	Women's Health Initiative Study of Cognitive Aging



# DMDA Leadership Team

- Mark Espeland, Core Director
- Greg Evans, Core Co-Director
- Delilah Cook, Project Manager
- John Hepler, Data Management Director
- Patty Davis, Data Management Co-Director
- Sarah Gaussoin, Data Analytics Director

# DMDA Funded Investigators

- Xiaobo Zhou
  - Systems biology; Bioinformatics; Big data
- Ramon Casanova
  - Biomathematics; Data mining

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## Duties of Funded Investigators

- Conduct analytical and methodological research related to the Core's aims
- Collaborate on the development of research proposals within the themes of the ADCC
- Collaborate with researchers throughout the institution to further the ADCC goals

# DMDA Affiliate Investigators

- Dale Dagenbach: Psychology and Cognitive Neuropsychology
- Paul Laurienti: Image Acquisition and Analysis
- Xingnan Li: Genetic Analysis
- Joseph Maldjian: Imaging and Machine Learning
- Deborah Meyers: Statistical Genetics
- Nick Pajewski: Data and Genetics Analysis
- Scott Rushing: Information Technology
- Sean Simpson: Image and High Dimensional Analysis
- Beverly Snively: Statistical Design and Statistical Genetics

# DMDA Collaboration

- Database programming
- Study design
- Analyses to support grants

# DMDA Collaboration

- Collaboration is currently developed through Ms. Delilah Cook
- Website portal is under development to field and track requests for collaboration
- Priority will be given to most grant proposals that are most tightly aligned with ADCC objectives and have sufficient lead time for the collaboration to be productive
- Grant submissions will include support for post-award collaboration

# Questions??

