

CURRICULUM VITAE/Bibliography

Michelle M. Mielke, Ph.D.

PRESENT ACADEMIC RANK AND POSITION

Chair, Department of Epidemiology and Prevention
 Division of Public Health Sciences
 Professor, Epidemiology and Prevention
 Professor, Gerontology and Geriatric Medicine
 Wake Forest University School of Medicine

EDUCATION AND TRAINING:

B.S. in Neuroscience University of Pittsburgh	1994-1999 Pittsburgh, PA
Ph.D. in Psychiatric Epidemiology Johns Hopkins University Bloomberg School of Public Health	2000-2004 Baltimore, MD
Post-doctoral Fellowship in Epidemiology of Aging Johns Hopkins University Bloomberg School of Public Health	2004-2005 Baltimore, MD
Lydia Gillespie Post-doctoral Fellowship in Psychiatry Johns Hopkins University School of Medicine	2005-2006 Baltimore, MD
Leadership & Organization Development Classes, Mayo Clinic	
The Leadership Effect	2/27-28/2014
Leading with Emotional Intelligence	10/23/2014
Professionalism II	02/03/2015
Mayo Leader 360	04/30/2015
Professionalism III	03/03/2017
Emotional Intelligence II	10/17/2017
Crucial Conversations Virtual Classroom, Vital Smarts	10/5-9/2015 Provo, UT
American Academy of Neurology Women in Leadership	4/22/2017
Association of American Medical Colleges (AAMC)	12/2-12/5/2017
Mid-Career Women Faculty Leadership Development Seminar	Scottsdale, AZ
Mindful Leadership Workshop	10/02/2019 Rochester, MN
Women in Leadership Certificate, Cornell University	11/2019-02/2020
Navigating the Double Bind	
Negotiation Skills	

Using Emotional Intelligence to Drive Results
 Giving and Receiving Feedback
 Outsmart the Work-Life Balance

Mayo Clinic ACCELERATE! Leadership Development Program

11/2020-08/2021

HONORS/AWARDS

1997	University of Pittsburgh Travel Grant to attend and present at the Society for Neuroscience Conference
1997-1999	Golden Key National Honor Society
2000-2004	National Institute of Mental Health Pre-Doctoral Fellow in Psychiatric Epidemiology; Johns Hopkins University School of Public Health, Department of Mental Health Institutional Training Grant
2005	Lydia Gillespie Fellow
2005	Harold and Sylvia Halpert Endowment Award, Department of Mental Health, Johns Hopkins Bloomberg School of Public Health
2005	Travel Fellowship to present at the 2 nd International Vascular, Behavioural and Cognitive Disorders Conference, Florence, Italy, June 2005
2006	Recipient, National Institutes of Health Clinical Loan Repayment Program
2006	Alzheimer's Association Travel Fellowship to present at the 10 th International Conference on Alzheimer's Disease and Related Disorders; Madrid, Spain, July 2006
2007	International College of Geriatric Psychoneuropharmacology (ICGP) Junior Investigator Award
2007	Fellow, 13 th NIMH Summer Research Institute in Geriatric Psychiatry
2008	Recipient, National Institutes of Health Clinical Loan Repayment Renewal
2010	Scholar, NIMH Advanced Research Institute in Geriatric Psychiatry
2016	John R. Raymond Mentor Award, Women Scholars Initiative, Medical University of South Carolina
2021	Top Emerging Science abstract at the 2021 American Academy of Neurology annual conference
2022	Top Reviewer, <i>Neurology</i>

PREVIOUS PROFESSIONAL POSITIONS AND MAJOR APPOINTMENTS

Research Assistant	1994-1999
Nicotine Self-Administration in Rats, University of Pittsburgh	Pittsburgh, PA
Study Coordinator	1999-2000
Center for Biomedical Ethics, University of Pittsburgh	Pittsburgh, PA
Data Manager	
National Collaborative Perinatal Project	2001-2002
Johns Hopkins Bloomberg School of Public Health	Baltimore, MD

Biostatistician

Division of Geriatric Psychiatry and Neuropsychiatry
Johns Hopkins University School of Medicine

2003-2005
Baltimore, MD

Instructor, Department of Psychiatry,

Division of Geriatric Psychiatry and Neuropsychiatry
Johns Hopkins University School of Medicine

2006-2007
Baltimore, MD

Assistant Professor, Department of Psychiatry,

Division of Geriatric Psychiatry and Neuropsychiatry
Johns Hopkins University School of Medicine

2007-2011
Baltimore, MD

Joint appointment in Department of Mental Health

Johns Hopkins University Bloomberg School of Public Health

2007-2011
Baltimore, MD

Assistant Professor, Department of Health Sciences Research

Division of Epidemiology
Mayo Clinic College of Medicine

2011-2012
Rochester, MN

Adjunct Appointment in Department of Psychiatry,

Johns Hopkins University School of Medicine

2012-2013
Baltimore, MD

Adjunct Appointment in Department of Mental Health

Johns Hopkins University Bloomberg School of Public Health

Associate Professor, Department of Health Sciences Research

Division of Epidemiology
Mayo Clinic College of Medicine

2012-2016
Rochester, MN

Associate Professor, Department of Neurology

Mayo Clinic College of Medicine

2013-2016
Rochester, MN

Professor, Department of Quantitative Health Sciences

Division of Epidemiology
Mayo Clinic College of Medicine

2016-2022
Rochester, MN

Professor, Department of Neurology

Mayo Clinic College of Medicine

2016-2022
Rochester, MN

Director, Mayo Clinic Specialized Center of Research Excellence
on Sex Differences Mayo Clinic

2018-present
Rochester, MN

Chair, Diversity Equity and Inclusion Advisory Board

Department of Quantitative Health Sciences

2020-2022
Mayo Clinic Enterprise

Associate Chair, Academic Affairs and Faculty Development

Department of Quantitative Health Sciences

2021-2022
Mayo Clinic Enterprise

PROFESSIONAL COMMITTEE AND SOCIETY MEMBERSHIPS AND EXTERNAL ACTIVITIES

Professional Committees

Geoffrey Beene Global NeuroDiscovery Challenge, 2013
Alzheimer's Association Task Force on Gender Vulnerabilities, 2015-2016
NIH Computerized/Remote Cognitive Assessment Committee, 2015-2016
Alzheimer's Drug Discovery Foundation Scientific Review Board, 2015-Present
Blood-Based Professional Interest Area AAIC/ISTAART
(Vice Chair 2015-2017, Chair 2017-2019, Past-Chair 2019-2021)
Co-Chair, Society for Women's Health Research, Alzheimer Disease Network, 2016-2020
CARDIA Systems Biology Subcommittee, 2017-2020
Alzheimer's Drug Discovery Scientific Review Board, 2018-Present
Global Biomarkers Standardization Consortium (GBSC) of CSF Biomarkers, 2018-Present
Standardization of Alzheimer's Blood Biomarkers (SABB), 2018-Present
Center for Disease Control and Prevention, World Trade Center Cognitive Aging and Impairment
Scientific Working Group, 2019-Present
Co-Chair, Diversity and Disparities Sex and Gender Significant Interest Group AAIC/ISTAART,
2020-Present
Executive Committee Member, Sex and Gender Professional Interest Area, AAIC/ISTAART,
2020-Present
External Advisory Board for Brigham/Harvard NIH-funded U54 Specialized Center of Research
Excellence on Sex Differences (SCORE), 2020-Present
NHLBI Observational Study Monitoring Board for the Coronary Artery Risk Development in
Young Adults (CARDIA), 2021-Present
Advisory Group on Risk Evidence Education for Dementia, Co-Lead of Fluid Biomarker Group,
2021-Present
Organization for the Study of Sex Differences, Program Committee, 2021-Present
Alzheimer's Association International Conference (AAIC) Program Committee, 2021-Present
University of California Davis, Alzheimer's Disease Research Center External Advisory
committee, 2022

Food and Drug Administration

Peripheral and Central Nervous System Drugs Advisory Committee, 2012 – 2017
Peripheral and Central Nervous System Drugs Advisory Committee, 2020 – Present

Department of Defense

Reviewer, Congressionally Directed Medical Research Program (CDMRP) Peer-Reviewed Medical
Research Program Heart Disease, 2016
Panel Member, Congressionally Directed Medical Research Program (CDMRP) Peer Reviewed
Alzheimer's Research Program (PRARP), 2017-2021

NIH Study Sections

Special Emphasis Panel for Challenge Grants, ZRG1 BDCN-T, June 2009

Special Emphasis Panel for Challenge Grants, ZRG1 PSE-C, June 2009
 Special Emphasis Panel for Challenge Grants, ZRG1 PSE-J, June 2009
 NAME - Neurological, Aging and Musculoskeletal Epidemiology Study Section, June 2010
 ZAG1 ZIJ-3 – National Institute on Aging Special Emphasis Panel, June 2011
 NAME - Neurological, Aging and Musculoskeletal Epidemiology Study Section, June 2013
 ZRG1 PSE-T -- Human Disorder Epidemiology, R15 Study Section, April 2014
 Member, NAME - Neurological, Aging and Musculoskeletal Epidemiology Study Section,
 Oct 2014-June 2018
 ZRG1 BDCN-N – Special Emphasis Panel, March 2015
 ZAG1 ZIJ-6 –Special Emphasis Panel, Enhancing Target and Biomarker Discovery in AD, May 2017
 ZRG1 PSE-D – Epidemiology and Cohort Studies for Alzheimer’s Disease, Related Dementias, and
 Cognitive Resilience, February 2018
 ZRG1 ETTN-N – Epidemiology and cohort Studies for Alzheimer’s Disease, Related Dementias
 and Cognitive Resilience, February 2019
 ZRG1 EMNR-A – Specialized Center of Research Excellence on Sex Differences, July 2019
 NIA IRP BSC Review Panel, October 2019
 ZAG1 ZIJ-P – Early Diagnosis and Prediction Special Emphasis Panel, February 2020
 ZRG1 BDCN-J – Peripheral Pathology in the Lewy Body Dementias Special Emphasis Panel,
 March 2020
 ZRG1 BDCN-N – Fogarty Global Brain Disorders, March 2020
 ZRG1 ETTN-A – Small Business: Neuroscience Assay, Diagnostics, and Animal Model
 Development, June 2020
 ZAG ZIJ-5 – Leadership in Alzheimer’s Disease, October 2020
 ZGM1 RCB-2 -- Centers for Biomedical Research Excellence (COBRE), May 2021
 ZRG1 IMST-K(70) -- Bridge to AI U54 Center Grant, October 2021

Other Grant Review Committees

Research into Ageing (U.K.), 2008
 JHU NIMH Center for NeuroAIDS, 2009
 Alzheimer’s Association, 2009-Present
 Estonia Medical Foundation, 2010
 Neurological Foundation of New Zealand, 2010
 Center on Women’s Health (Mayo Clinic), 2012
 Geoffrey Beene Global NeuroDiscovery Challenge, 2013
 CCaTS Scientific Review Group (Postdoctoral Full Committee), 2013-Present
 Michael Smith Foundation for Health Research, 2014
 Italian Ministry of Health, 2015
 EU Joint Program – Neurodegenerative Disease Research, 2015, 2021
 Weston Brain Institute, 2015-Present
 Canadian Institutes of Health Research (CIHR), 2016
 American Brain Foundation, 2017-Present
 Alzheimer Nederland, 2018, 2020
 Einstein Foundation, 2018
 Alzheimer’s Drug Discovery Foundation, 2018
 Medical Research Council (U.K.), 2018
 UK Alzheimer’s Society, 2019
 California Department of Public Health's Alzheimer's Disease Program (ADP), 2019

Swiss National Science Foundation, 2020
 FIN-RER- Health Research Programme of the Emilia-Romagna Region-University and Bottom-up Projects-Call, 2020
 Graduate Women in Science (GWIS) National Fellowship Program, 2021
 Chair, Brain Canada – Women’s Brain Health Initiative, 2021
 UK Medical Research Council and Dementia Research Institute, 2021
 UK National Institute for Health Research, 2021
 European Research Council, 2022

Society Memberships

Society for Epidemiological Research, 1998-2000, 2015-Present
 Aging Mentor, 2020
 The Gerontological Society of America, 1998-Present
 International Society for Vascular, Behavioural and Cognitive Disorders, 2001-2011
 Student Representative for the Program Committee, 2003-2005
 Student Representative for the Nominating Committee, 2003-2007
 International College of Geriatric Psychoneuropharmacology, 2007-2013
 Member, Program Committee, 2008-2013
 The Alzheimer’s Association International Society to Advance Alzheimer Research and Treatment (ISTAART), 2007-Present
 National Lipid Association, 2012-2015
 American Academy of Neurology, 2014-Present
 Movement Disorder Society, 2015-2019
 Organization for the Study of Sex Differences, 2015-Present
 American Association for the Advancement of Science (AAAS), 2017-Present
 North American Menopause Society (NAMS), 2018-Present
 American Society of Aging, 2021-Present

Editorial Activities

Senior Editor:

Alzheimer’s and Dementia: The Journal of the Alzheimer’s Association (2018-Present)

Associate Editor, Journals:

Alzheimer’s and Dementia: The Journal of the Alzheimer’s Association (2012-2018)

Alzheimer’s and Dementia: The Journal of the Alzheimer’s Association: Diagnosis, Assessment, and Monitoring (2016-Present)

Alzheimer’s and Dementia: The Journal of the Alzheimer’s Association: Translational Research and Clinical Interventions (2021-Present)

Journal of Alzheimer’s Disease (2011-Present)

Alzheimer’s Research Therapy (2021-Present)

Guest Associate Editor:

International Journal of Alzheimer’s Disease

Journal of Aging Research

Member, Editorial Board

Neurology (2020-Present)

Academic Editor: *PLoS Medicine*, 2017

Guest Peer Reviewer, Journals:

Age

Age and Aging

Aging Cell

Aging Research Reviews

Alzheimer's and Dementia: The Journal of the Alzheimer's Association

Alzheimer's and Dementia: Diagnosis, Assessment, and Disease Monitoring

Alzheimer's Research and Therapy

American Journal of Geriatric Psychiatry

American Journal of Epidemiology

American Journal of Physiology-Heart and Circulatory Physiology

Annals of Clinical and Translational Neurology

Annals of Epidemiology

Annals of Medicine

Annals of Neurology

Archives of General Psychiatry

Bioanalysis

Biological Psychiatry

BMJ (British Medical Journal)

Brain

Brain Imaging and Behavior

Brain Research

Brain Structure and Function

British Journal of Psychiatry

Cellular and Molecular Life Sciences

Clinical Lipidology

CNS and Neurological Disorders – Drug Targets

Current Alzheimer's Research

Dementia and Geriatric Cognitive Disorders

European Journal of Clinical Nutrition

European Journal of Neurology

European Psychiatry

Experimental Neurology

Frontiers in Neurology

Frontiers in Neuroscience

Hypertension in Pregnancy

International Journal of Geriatric Psychiatry

International Psychogeriatrics

International Review of Psychiatry

JAMA

JAMA Dermatology

JAMA Neurology

JAMA Psychiatry

Journal of Alzheimer's Disease

Journal of the American Geriatric Society
Journal of Cerebral Blood Flow and Metabolism
Journal of Clinical Psychiatry
Journal of Gerontology: Medical Sciences
Journal of Internal Medicine
Journal of Neurochemistry
Journal of Neurology, Neurosurgery, and Psychiatry
Journal of Neuropsychiatry and Clinical Neurosciences
Journal of Parkinson's Disease
Journal of Women's Health
Lancet
Lancet Neurology
Lancet Psychiatry
Molecules
Molecular Neurodegeneration
Movement Disorders
Nature Aging
Nature Neurology Reviews
New England Journal of Medicine
Neurobiology of Aging
NeuroImage
Neurology
New England Journal of Medicine
Parkinson's Disease and Related Disorders
PLoS Medicine
PLoS One
Proceedings of the National Academy of Sciences
Psychiatry Research Neuroimaging
Scientific Reports

Conference Organizer, Session Chair

International College of Geriatric Psychoneuropharmacology, 2008, "New Research in Alzheimer Biomarker Development," Sydney, Australia – Session Chair.
 International College of Geriatric Psychoneuropharmacology, 2009, "The role of lipids in the development of Alzheimer's disease: new therapeutic approaches?" Baltimore, MD – Session Chair.
 International College of Geriatric Psychoneuropharmacology, 2010, "Neuroimaging Biomarkers in Geriatric Psychiatry: identifying biological correlates of disease state and treatment response," Athens, Greece – Session Co-Chair.
 Human Amyloid Imaging Conference, 2013, "Amyloidosis, Neuro-Degeneration, White Matter Integrity," Miami, Florida – Session Co-Chair
 Eighth Congress of the International Society for Gender Medicine (IGM Congress 2017), "Epidemiology and Geriatric Medicine," Sendai, Japan - Session Chair
 Eighth Congress of the International Society for Gender Medicine (IGM Congress 2017), "Sex, Aging and Cognitive Decline," Sendai, Japan - Plenary Session 4 Co-Chair

Organizing Committee, *Educational Workshop: The Basics of Fluid Biomarkers in Alzheimer's Disease, Alzheimer's Association International Conference*, Chicago, IL; July 2018
 AD/PD 2019. The 14th International Conference on Alzheimer's & Parkinson's Disease, Symposium 05: Imaging and CSF Biomarkers – Lisbon, Portugal; March 2019 – Session Co-Chair

MAYO CLINIC INTRAMURAL COMMITTEE ACTIVITIES

Women's Health Research Center Executive Committee, 2012-Present
 Grant Reviewer, 2012
 Academic Rank Task Force for Allied Health, 2013-2015
 CCaTS Scientific Review Group, 2013-Present
 Department of Quantitative Health Sciences, Research Committee, 2014-Present
 Department of Health Sciences Research, Mentoring Expectations Task Force, 2015-2016
 Executive Committee Member, Mayo Clinic Building Interdisciplinary Research Careers in Women's Health (BIRCWH), 2016-Present
 Department of Quantitative Health Sciences, Cores Subcommittee, 2019-Present
 Department of Health Sciences Research, Faculty Recruitment Handbook Task Force, 2019
 Kern Scholar Application Review Panel, 2019-Present
 Search Committee Chair, Epidemiology of Aging faculty position, 2019
 Department of Neurology, Academic Appointments and Promotions Committee, 2020-Present
 Department of Health Sciences Research, Work from Anywhere Task Force, Chair, 2020
 Mayo Clinic Research Personnel Subcommittee Member, 2021-Present

EDUCATIONAL ACTIVITIES

Educational Publications

Lawlor, J.P., **Mielke, M.M.**, Hardy, J.B., Eaton, W.W., & Duggan, A.K. National Collaborative Perinatal Project 1959-1973: Modernization and enhancement of public use data and documentation for analytic and training purposes on a personal computer. Johns Hopkins University, Baltimore, MD. 2002. Limited Distribution Evaluation Version.

Teaching Activities

English Teacher for Hubert H. Humphrey Fellows, Johns Hopkins Bloomberg School of Public Health (01/2000-05/2000)
 Teaching Assistant, Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Neuropsychology of Mental Disorders, 03/2004-04/2004
 Lecturer, Department of Mental Health, Johns Hopkins Bloomberg School of Public Health Neuropsychology of Mental Disorders, 04/2004, 04/2005, 05/2007, 05/2010
 Instructor, Division of Geriatric Psychiatry, Johns Hopkins School of Medicine

Taught geriatric psychiatrists, fellows and medical students statistical methods and study design methodology, 07/2006-05/2011

Director, “Biomarkers of Neurodegeneration” Monthly Seminar, Johns Hopkins School of Medicine, 09/2008-05/2011

Faculty, Second Annual Summer Course for Clinical and Translational Investigators in Neurology and Neuroscience, sponsored by the American Neurological Association (08/2009, 05/2011)

Co-Director, CTSC 5390 Advanced Applied Epidemiologic Methods, Mayo Graduate School of Biomedical Sciences (01-02/2012)

Teaching Privileges, Mayo Graduate School, Clinical and Translational Science Track (04/2012-Present)

Lipidomic Predictors of Cognitive Progression, Karolinska Institute-Mayo Meeting (09/21/2012)

Mayo Olmsted Study of Aging, Rochester Senior Center (1/24/2013)

Co-Director, CTSC 5390 Advanced Applied Epidemiologic Methods, Mayo Graduate School of Biomedical Sciences (01-02/2013)

Faculty, Second Neuroscience Maastricht Master Class. Maastricht University. Maastricht, the Netherlands (5/2013)

Design and Conduct of a Case-Control Study, Presentation to General Surgery Residents and Fellows, Mayo Clinic (8/26/2013)

Design and Conduct of a Cohort Study, Presentation to General Surgery Residents and Fellows, Mayo Clinic (10/21/2013)

Co-Director, CTSC 5390 Advanced Applied Epidemiologic Methods, Mayo Graduate School of Biomedical Sciences (01-02/2014)

Moving Younger: Experiences and Preliminary Results of Extending the Mayo Olmsted Study of Aging to Younger Age Groups, Department of Health Sciences Research Grand Rounds, Mayo Clinic (1/27/2014)

Sphingolipids -- Common Pathway for Multiple Pathologies? Department of Health Sciences Research Grand Rounds, Mayo Clinic (5/29/2014)

Case-control vs. Cohort Study, Presentation to General Surgery Residents and Fellows, Mayo Clinic (9/8/2014)

Navigating the Current Findings in Alzheimer’s Disease Research, St. Benedicts Senior Community, St. Cloud, MN (9/19/2014)

Co-Director, CTSC 5390 Advanced Applied Epidemiologic Methods, Mayo Graduate School of Biomedical Sciences (01-02/2015)

Co-Director, CTSC 5390 Advanced Applied Epidemiologic Methods, Mayo Graduate School of Biomedical Sciences (01-02/2016)

Ceramide and Glucosylceramide Metabolism in Parkinson’s Disease and Lewy Body Dementia, Metabolomics Interest Group Presentation at Endocrine Research Seminar (2/14/2017)

Sex, Gender, and Dementia. 7th International Course of Neuroepidemiology: Methods and Clinical Applications, Erice, Italy (3/8/2017)

Are women really at greater risk of Alzheimer’s disease? Understanding the Impact of Sex and Gender Differences on the Development, Progression and Treatment of Alzheimer’s Disease, Department of Health Sciences Research Grand Rounds, Mayo Clinic (5/8/2017)

Sphingolipids: Common Pathway for Multiple Neurodegenerative Diseases
Neurology Grand Rounds, Mayo Clinic (8/7/2017)

Cutting Edge Techniques Including Blood Based Biomarkers, *Educational Workshop: The Basics of Fluid Biomarkers in Alzheimer’s Disease, Alzheimer’s Association International Conference*, Chicago, IL (7/20/2018)

Sex as a Biological Variable Workshop Co-Director, Women's Health Research Center (8/29/2018)
 Highlighting Mayo Clinic's New Specialized Center of Research Excellent on Sex Differences (SCORE): Sex-Specific Effects of Endocrine Disruption on Aging and Alzheimer's Disease, Women's Health Grand Rounds (10/18/2018)
 Group Leader, CTSC 5010 Protocol Development, 2018
 Sex as a Biological Variable Workshop Co-Director, Women's Health Research Center (12/13/2018)
 Sex as a Biological Variable Workshop Co-Director, Women's Health Research Center (4/30/2019)
 Cutting Edge Techniques Including Blood Based Biomarkers, *Educational Workshop: The Basics of Fluid Biomarkers in Alzheimer's Disease, Alzheimer's Association International Conference*, Los Angeles, CA (7/12/2019)
 Sex as a Biological Variable Workshop Co-Director, Women's Health Research Center (10/03/2019)
 Considering Sex Differences in Aging Research: Focus on Dementia. *Kogod Center Monday Seminar Series*, Rochester, MN (11/2019)
 Group Leader, CTSC 5010 Protocol Development, 2020
 Sex as a Biological Variable Workshop Co-Director, Women's Health Research Center (9/16/2019)
 Sex and Gender Differences in Alzheimer's Disease: Prevalence, Clinical Presentation, and Risk Factors, Women's Health Grand Rounds, Mayo Clinic (06/24/2021)
 Current Status and Future Directions for Blood-Based Biomarkers, *Educational Workshop: The Basics of Fluid Biomarkers in Alzheimer's Disease, Alzheimer's Association International Conference*, virtual session, 06/30/2021
 Faculty, University of Michigan Integrative Well-Being and Inequality (MIWI) Training Program, 2021
 Faculty, Bright Focus Foundation Alzheimer's FastTrack Workshop, 2021

Mentoring

Melissa Morgan, B.S. (Medical student at Johns Hopkins School of Medicine) 09/2006 –05/2007.
 Article: **Morgan MD**, Mielke MM, O'Brien R, Troncoso JC, Zonderman AB, Lyketsos CG (2007). Rates of depression in individuals with pathologic but not clinical Alzheimer disease are lower than those in individuals without the disease: findings from the Baltimore Longitudinal Study of Aging (BLSA). *Alzheimers Disease and Associated Disorders* 21:199-204. PMID: PMC2607061

Richard Carrick (Undergraduate student at Johns Hopkins University) 05/2008 – 05/2009.
 Article: Mielke MM, Haughey N, Bandaru VVR, Schech S, **Carrick R**, Carlson MC, Mori S, Miller MI, Ceritoglu C, Brown T, Albert M, Lyketsos CG (2010). Plasma ceramides are altered in MCI and predict cognitive decline and hippocampal volume loss. *Alzheimers Dement* 6(5): 378-385. PMID: PMC2933928

Patricia Gracia-Garcia, M.D. (Visiting psychiatry resident from Spain) 01/2009 – 05/2009.
 Article: **Gracia-Garcia P**, Rao V, Haughey NJ, Bandaru VVR, Smith G, Rosenberg PB, Lobo A, Lyketsos CG, Mielke MM (2011). Plasma ceramides are elevated in depression. Elevated plasma ceramides in depression. *J Neuropsychiatry Clin Neurosci* 2011 Spring;23(2):215-8. PMID: PMC3121176

Sara Tighe, M.D. (Psychiatry Fellow at Johns Hopkins School of Medicine) 01/2010 – 05/2011.
Article: **Tighe SK**, Oishi K, Mori S, Smith GS, Albert M, Lyketsos CG, Mielke MM.
Diffusion tensor imaging of neuropsychiatric symptoms in mild cognitive impairment and Alzheimer's dementia. J Neuropsychiatry Clin Neurosci 2012 Sept;24(4):484-8. PMCID: PMC3533244.

Chelsie Hollas, B.S., M.P.H. (Medical Student, Texas Tech University, Paul L. Foster School of Medicine; Medical Student Sustained Training and Research Experience in Aging and Mental Health [M-STREAM]). 06/2013 – 08/2013. Visiting summer medical student.
Presentation of Research: *Does Exercise in Early Adulthood Affect Cognition in Mid-Adult Life*

Angela Boeve (Undergraduate Student, St. Olaf College) 06/2013 – 08/2013. Summer internship to gain research experience. Presentation of Research at AAIC: *Sleep-related features and performance on a computerized cognitive battery: the Mayo Clinic Study of Aging*. Also: Boeve A, Ferman TJ, Aakre J, St Louis E, Silber M, Machulda M, Fields J, Graff-Radford N, **Mielke M**, Geda Y, Jones D, Graff-Radford J, Knopman D, Petersen R, Boeve B. Excessive daytime sleepiness in major dementia syndromes. Am J Alzheimers Dis Other Dement 2019 June;34(4):261-4. PMCID: PMC6709580

Anne Weston (Undergraduate Student, University of Minnesota) 05/2015 – 08/2015. Student internship to gain research experience.

Anupama Aryal-Khanal, M.B., B.Ch. (Masters Student) 05/2015 – 09/2015. Mentor for her MPH internship at the Mayo Clinic. Currently a Clinic Research Coordinator at Mayo Clinic.

Alexandra Wennberg, Ph.D. (Postdoctoral Fellow) 07/2015 – 12/2017. Primary Mentor, Postdoctoral Fellow in Epidemiology at the Mayo Clinic. Currently a Research Associate at Karolinska Institute.

Ahmed T. Ahmed, M.B., B.Ch. (Master's Student) 03/2016 – 12/2018. Research Fellow in Preventive Medicine, Mayo Clinic. Primary Mentor for Master's degree in Clinical and Translational Research at the Mayo Clinic.

Andreana Benitez, Ph.D. (Fellowship Mentor) 04/2016 – 09/2017. Associate Professor, Medical University of South Carolina, Department of Neurology and Radiology. Mentor as part of her J.R. Raymond Fellowship.

Thomas Hum-Hyder (Undergraduate Student, Trinity College, Hartford, CT) 05/2016 – 09/2017. Summer Student internship to gain research experience.

Hanna Lawler (Undergraduate Student, Marquette University) 05/2016 – 08/2018. Summer Student Internship to gain research experience.

Rachel Sobiesk (Undergraduate Student, Marquette University) 05/2016 – 03/2017. Summer Student Internship to gain research experience.

Shemonti Hasan, B.S. (Mayo Clinic Medical Student) 06/2016 – 07/2019. Primary Mentor for Master's degree in Clinical and Translational Research at the Mayo Clinic. Currently a Neurology resident at Mayo Clinic Arizona.

Francesco Multinu (Visiting Research Fellow) 07/2016 – 05/2017. Mentor for Master's degree in Clinical and Translational Research at the Mayo Clinic. Master's Thesis: Proportion of Leiomyosarcoma at the Time of Surgery for Presumed Benign Fibroids: A Population-Based Study.

Britta Bureau (Undergraduate Student, Marquette University) 08/2016 – 09/2017. Summer Student internship to gain research experience. Currently an M.D./Ph.D. student at Medical College of Wisconsin.

Pierpaolo Turcano, M.D. (Research Trainee) 08/2016 – 09/2017; (Research Fellow) 09/2017 – 07/2019. Mentor, Trainee/Fellowship. Currently a Neurology resident at Mayo Clinic Jacksonville.

Wendy White, M.D. (Junior Faculty, Mayo Clinic) 09/2016 – 10/2017. Faculty Mentoring Committee.

Bjorg Thorsteinsdottir, M.D. (Assistant Professor, Primary Care Internal Medicine, Mayo Clinic). 09/2016 – 12/2020. K-Award Mentor: *"Evidence Based Encounter Decision Aid for Elderly Patients to Promote Shared Decision Making on Treatment Choice in End Stage Renal Disease"*. Currently a Consultant in Community Internal Medicine and Assistant Professor of Biomedical Ethics.

Maria Vassilaki, M.D., Ph.D. (Assistant Professor, Division of Epidemiology, Mayo Clinic) 04/2017 – 03/2022. Faculty Mentoring Committee.

Luis Montes China, B.S. (Medical Student at University of Puerto Rico) 05/2017 – 07/2017. Mentor, visiting Summer Medical Student. Currently an Internal Medicine Resident at the University of Puerto Rico.

Hector Quinones, B.S. (Medical Student, University of Puerto Rico) 05/2017 – 07/2019. Primary Mentor for Master's degree in Clinical and Translational Research at the Mayo Clinic. Currently a Neurology resident at the University of Miami.

Zachary Erickson (Undergraduate Student, Iowa State University) 05/2017 – 09/2019. 07/2020-03/2022. Mentor for Summer Student Internship to gain research experience and for a Graduate Research Program Internship. Currently a Master's student in Anatomy and Physiology at the University of Iowa.

Silke M. Kern, M.D., Ph.D. (Consultant Neurologist and Psychiatrist, University of Gothenburg) 08/2017 – 01/2019. Mentor for Visiting Research Fellowship. Currently Senior Lecturer and Chief Physician at the Department of Psychiatry and Neurochemistry, University of Goteborg.

Danni Li, Ph.D. (Assistant Professor, Clinical Chemistry, University of Minnesota) (10/2017-09/2020). Career Mentor. Currently an Associate Professor, Department of Laboratory Medicine and Pathology and Director of Clinical Chemistry at the University of Minnesota.

Nikki Stricker, Ph.D., L.P. (Assistant Professor, Psychology, Mayo Clinic) 01/2018 – Present. Faculty Mentoring Committee and K-award submission Primary Mentor.

Phillip Schulte, Ph.D. (Assistant Professor, Biostatistics and Informatics, Mayo Clinic) 06/2018 – 03/2022. Faculty Mentoring Committee. Currently an Associate Professor.

Marissa Schafer, Ph.D. (Post-doctoral fellow, Physical Medicine and Rehabilitation, Mayo Clinic) 09/2018 – Present. K-award Mentor. Currently an Assistant Professor in Neurology and Physiology, Mayo Clinic.

Ashley Fett (Undergraduate Student, Florida State University) 06/2018-08/2020. Summer Student Internship to gain research experience.

Angel L. Ortiz Rodriguez (MD/MS student) 07/2018-10/2020. MS Mentoring Committee.

Olivia Matzke (Undergraduate Student, St. Katherines University) 05/2019-08/2019. Summer Student Internship to gain research experience.

Chandrasager (Sagar) Dugani, M.D., Ph.D. (Assistant Professor, Hospital Internal Medicine, Mayo Clinic). 06/2019-Present. Faculty Mentoring Committee Member and K-grant Mentor.

Shahar Shelly, M.D. (Resident/Fellow) 08/2019-07/2021. Mentor, Trainee/Fellowship.

Alanna Chamberlain, Ph.D. (Assistant Professor, Division of Epidemiology, Mayo Clinic) 12/2019 – 03/2022. Faculty Mentoring Committee. Currently an Associate Professor.

Nafisseh Warner, M.D. (Assistant Professor, Anesthesiology, Mayo Clinic) 12/2019 – Present. Faculty Mentoring Committee Member and K-grant Co-Mentor.

Nan Huo, M.D., Ph.D. (Postdoctoral Fellow) 12/2019 – 11/2021. Primary Mentor, Postdoctoral Fellow in Epidemiology at the Mayo Clinic.

Aoife Egan, M.B.B.Ch., Ph.D. (Assistant Professor, Endocrinology, Mayo Clinic) 04/2020-Present. Mentor, Mayo Clinic Women's Health Research Scholar.

Emma Fortune Ngufor, Ph.D., (Research Associate, Division of Health Care Policy Research, Department of Health Sciences Research) 04/2020-Present. Mentor, Mayo Clinic Women's Health Research Scholar. Currently an Assistant Professor.

Zubin Master, Ph.D. (Associate Professor, Biomedical Ethics, Mayo Clinic). 04/2020-03/2022. Faculty Mentoring Committee Member.

Irina Bancos, M.D. (Associate Professor, Endocrinology, Mayo clinic). 09/2020-03/2022. Faculty Mentoring Committee Member.

Elena Myasoedova, M.D. (Assistant Professor, Rheumatology, Mayo Clinic). 10/2020-Present.
Faculty Mentoring Committee Member. Currently an Associate Professor of Medicine.

Jordan Marks, B.S. (MD/PhD Student, Mayo Clinic). Student research mentor. 06/2020-03/2022.

Kristen George, Ph.D. (Postdoctoral Fellow, University of California Davis Medical Center).
10/2020-08/2021. K-grant Mentoring Committee.

Thesis Committees

Eric Schneider, Ph.D., Department of Mental Health, Johns Hopkins Bloomberg School of Public Health; Departmental Exam Committee, 06/2007.

Kwun Chuen Gary Chan, Ph.D., Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health; Dissertation Final Defense Committee, 08/2008.
“Recurrent Marker Process Before Failure Event: A Backward Process Approach”

Mahwesh Saleem, M.S., Department of Pharmacology, University of Toronto. Ph.D. Supervisory Committee, 08/2011 – 05/2017.

Balwinder Singh, M.B.B.S., Neurology Research, Mayo Clinic, 2012 – 2013.
“Association of Chronic Obstructive Pulmonary Disease with Mild Cognitive Impairment”

Tracey Weissgerber, Ph.D., Nephrology Research, Mayo Clinic, 01/2015 - 10/2015.
Group Leader, Berlin Institute of Health at Charité – Universitätsmedizin, Berlin, Germany
“Vascular Health and Hypertensive Pregnancy Disorders: Linking Pregnancy Complications with Future Disease”

He Xu, Ph.D., The Florey Institute of Neuroscience and Mental Health, the University of Melbourne, 2016.
“Interactions Between Metals and Apolipoprotein E”

Kevin Huynh, Ph.D., Monash University, Melbourne, Australia, 2018.
“Improving Targeted Lipidomics to Elucidate Lipid Pathways in Type 2 Diabetes and Alzheimer’s Disease”

Inga Verberk, Ph.D., VU University Medical Center Amsterdam, Netherlands, 2021.
“Blood Test for Alzheimer’s Disease Coming to Fruition”

PRESENTATIONS AT REGIONAL, NATIONAL AND INTERNATIONAL MEETINGS

Visiting Professorships

Ceramides: A Blood-based Biomarker of Alzheimer Disease Progression? *Department of Psychiatry, Athens University Medical School*. Athens, Greece; October 2008.

Utility of Blood Lipid Sphingolipids as a Biomarker for Alzheimer's Disease: Current Evidence, Validation, and Limitations. *Geriatric Grand Rounds, University of Wisconsin School of Medicine & Public Health*. Madison, WI; July 2009.

Sphingolipids, Alzheimer's Disease, and Alzheimer's Disease Pathology. *Second Neuroscience Maastricht Master Class, Maastricht University*. Maastricht, the Netherlands; May 2013.

Sphingolipids and Neurodegenerative Diseases: A Common Pathway for Multiple Pathologies? *Neurology Grand Rounds, University of Minnesota*. Minneapolis, MN; September 2013.

Sphingolipids-Common Pathway for Alzheimer's disease, Parkinson's disease, and Lewy Body Dementia? *Hertie Institute*. Tübingen, Germany; December 2013.

Sphingolipids and Neurodegenerative Diseases: A Common Pathway for Multiple Pathologies? *Psychiatry Research Grand Rounds, Johns Hopkins University*. Baltimore, MD; April 2014.

Sphingolipids in Neurodegenerative Disease and Depression: A common Pathway for Multiple Diseases and Disorders? *Florey Institute of Neuroscience and Mental Health*. Melbourne, Australia; September 2015

Utility of Plasma Tau as a Biomarker for Alzheimer's disease: Results from the Mayo Clinic Study of Aging. *National Institute of Mental Health and Neuro Sciences (NIMHANS) T.S. Srinivasan -NIMHANS Knowledge Conclave 2016*. Bangalore, India; February 2016.

Sphingolipids-Common Pathway for Alzheimer's disease, Parkinson's disease and Lewy Body Dementia? *National Institute of Mental Health and Neuro Sciences (NIMHANS) T.S. Srinivasan -NIMHANS Knowledge Conclave 2016*. Bangalore, India; February 2016.

Understanding the Role of Sphingolipids in Neurodegeneration Diseases and Depression: From Basic Science to Epidemiology. *Michigan State's Department of Epidemiology and Biostatistics Seminar Series*. Lansing, MI; March 2016.

Sphingolipids in Alzheimer's Disease, Parkinson's Disease, and Lewy Body Dementia. *Centre for Healthy Brain Ageing Seminar, University of New South Wales*. Sydney, Australia; November 2016.

Sphingolipids: Common Pathway for Multiple Neurodegenerative Diseases? *Neurology Grand Rounds, Medical University of South Carolina*. Charleston, SC; January 2017.

Sex and Gender Differences in Alzheimer's Disease – Do They Exist and Why Does It Matter? *Sahlgrenska Academy, University of Gothenburg*. Gothenburg, Sweden; September 2018.

Developing Biofluid-Based Biomarkers for Operationalizing the new Alzheimer's Disease Research Framework. *Department of Clinical Chemistry, University of Minnesota*. Minneapolis, MN; December 2018.

Sex and Gender Differences in Alzheimer's Disease: Do They Exist and Why Does It Matter? *Women's Brain Initiative Speaker Series*. Brigham and Women's Hospital, Boston, MA; January 2019.

Importance of Considering Sex and Gender Differences in, and Sex Specific Risk Factors for, Alzheimer's Disease Dementia. *Rotman Research Institute Rounds*. Toronto, Canada; February 2020.

Invited Talks

The Role of Potassium in the Pathology of Dementia and Biomarkers of Dementia. *Annual NIMH and NIDA training grant meeting*. Baltimore, Maryland; April 2003.

Serum Risk Factors of Vascular Disease and Their Relation to Dementia and Biomarkers of Dementia. *Johns Hopkins Alzheimer Disease Research Center Dementia Consortium*. Baltimore, Maryland; June 2004.

Review of Risk Factors for Major Depression in Children and Adolescents. *National Institute of Mental Health Workshop on Prevention of Depression in Children and Adolescents*. Rockville, Maryland; June 2004.

Importance of Biomarkers for Alzheimer's Disease and Psychiatric Disorders. *Johns Hopkins Department of Mental Health Seminar*. Baltimore, Maryland; September 2006.

The Effects of Vascular Conditions and Therapies on the Progression of Established Alzheimer's Disease. *Johns Hopkins Alzheimer Disease Research Center Dementia Consortium*. Baltimore, Maryland; February 2007.

Membrane Lipids and Metabolites – Potential Biomarkers of Neurodegeneration and Alzheimer's Disease Progression. *Mayo Clinic Health Sciences Research Seminar*. Rochester, Minnesota; September 2007.

Lipid Biomarkers as Predictors of Alzheimer Diagnosis. *Annual Meeting of the American Association for Geriatric Psychiatry (AAGP)*. Orlando, FL; March 2008.

Blood-Based Lipid Biomarkers and DTI as Indicators of Alzheimer's Disease Progression. *Annual Meeting of the International College of Geriatric Psychoneuropharmacology (ICGP)*. Sydney, Australia; September 2008.

Blood Sphingomyelins and Ceramides as Biomarkers of Alzheimer's Disease Progression. *Controversies on Neurology (CONY) Consortium*. Athens, Greece; October 2008.

Plasma Ceramides: Relationship to MRI and Clinical Measures of AD Severity. *Johns Hopkins ADRC Dementia Consortium Retreat on Novel Approaches to Treatment and Assessment of Alzheimer's Disease*. Baltimore, MD; May 2009.

Bioactive Sphingolipids – A Dynamic Biomarker of Neurodegeneration? *Epidemiology Seminar, Vanderbilt University*. Nashville, TN; November 2010.

Mayo Clinic Study of Aging: Current Results and Future Expansion. *Minneapolis VA and Geriatric Research, Education & Clinical Center (GRECC)*. Minneapolis, MN; September 2011.

Predictors of Amyloid Accumulation in a Population-based Study of Cognitively Normal Elderly Controls. *Human Amyloid Imaging Conference*. Miami, FL; January 2012.

Identification of Non-Invasive Screening Variables for the Prediction of Amyloid Accumulation in a Population-Based Study of Cognitively Normal Elderly Individuals. *Alzheimer's Association International Conference*. Vancouver, BC, Canada; July 2012.

Technology of Analyzing CSF Samples, Biological Significance of Sphingolipids in Human CSF of Alzheimer Patients. *Eli Lilly and Company*. Indianapolis, IN; December 2012.

Blood-Based Markers of Neuronal and Microvascular Injury. *Developing Novel Blood-Based Biomarkers for Alzheimer's Disease Advisory Panel. Alzheimer's Drug Discovery Foundation and the Alzheimer's Association*. New York, NY; April 2013.

Sphingolipids as Biomarkers and Treatment Targets for Alzheimer's. *11th Dutch Endo-Neuro-Psycho Meeting*. Lunteren, the Netherlands; May 2013.

Back-Translation of Clinical Findings: Critical Mechanistic Information Needed for Interpretation. *Ceramides and Aging Workshop, National Institute on Aging, National Institutes of Health*. Bethesda, MD; July 2013.

Development of Sphingolipid Biomarkers for Alzheimer's Disease and Lewy Body Dementia. *14th International Conference on Alzheimer's Drug Discovery*. Jersey City, NJ; September 2013.

Identification of Biomarkers for the Diagnosis, Prediction and Progression of Alzheimer's Disease. *New York Academy of Sciences*. Companion Diagnostics: From Biomarker Identification to Market Entry. New York, NY; April 2014.

Sphingolipids and Neurodegenerative Diseases: A Common Pathway for Multiple Pathologies? *AbbVie Pharmaceuticals*. Chicago, IL; August 2014.

Sphingolipids and Neurodegenerative Diseases: A Common Pathway for Multiple Pathologies? *Lysosomal Therapeutics, Inc*. Boston MD; August 2014.

Sphingolipids in Alzheimer's disease: Use of Metabolomics Tools in Discovering Biomarkers and Therapeutics. *Mayo Clinic Metabolomics Symposium*. Rochester, MN; September 2014.

The Role of Sphingolipids in Aging-Related Diseases and Longevity
5th Annual Mayo Clinic Robert and Arlene Kogod Center on Aging Conference. Rochester, MN; October 2014.

Identifying and Translating Biomarkers for Neurodegenerative Diseases:

Experience with Sphingolipids. *CCaTS Grand Rounds*. Rochester, MN; March 2015.

Sex Differences in the Risk for Alzheimer's Disease. *Symposium on Sex Differences in Translational Medicine*. Wake Forest School of Medicine, Winston-Salem, NC; April 2015.

Are Women at Greater Risk for Alzheimer's Disease? *Alzheimer's Association Gender Vulnerabilities Related to Alzheimer's Disease Think Tank*. Chicago, IL; May 2015.

Biomarkers in DLB: New Perspectives. *Focus on Dementia with Lewy Bodies*. Tricase, Italy; June 2015.

Sphingolipids as Blood-Biomarkers for the Risk and Progression of Alzheimer's Disease. *AAIC Blood-based Biomarker PIA*. Washington, DC; July 2015.

Mild Cognitive Impairment – How Do We Detect this and Does it Go on to Dementia. *19th Australasian Menopause Society*. Canberra, Australia; September 2015.

Dementia – Why Women Are More at Risk and What Can Be Done to Reduce Risk. *19th Australasian Menopause Society*. Canberra, Australia; September 2015.

NIA Intermural Program: A Discussion about the Intramural Program. *2015 Beeson Annual Meeting*. Tarrytown, NY; October 2015.

Case Control and Cohort Studies: Expert Didactic. *General Surgery Journal Club*. Rochester, MN; October 2015.

Differences Between Men and Women in the Risk of Dementia. Symposium Session–Gender and Alzheimer's Disease. *Alzheimer's Association International Conference*. Toronto, Canada; July 2016.

Sphingolipids: Critical Pathway for Multiple Neurodegenerative Diseases. *3rd Australian Lipid Meeting (ALM3)*. Baker IDI Heart and Diabetes Institute. Melbourne, Australia; November 2016.

Rochester Epidemiology Project (REP) and the Mayo Clinic Study of Aging (MCSA). *ACT Research Symposium. Advancing Brain Aging Science through Community and Population-Based Studies*, Kaiser Permanente Washington Health Research Institute. Seattle, WA; August 2017.

Linking the REP to Sex-Specific Outcomes. *Celebration of Women's Health Research*. Rochester, MN; October 2017.

Challenges in Using CSF Biomarkers for Operationalizing the NIA-AA Research Framework. *Alzheimer's Association International Conference*. Chicago, IL; July 2018.

Invited Panelist, *Ninth Annual Fall Luncheon and Symposium, The Alzheimer's Drug Discovery Foundation*. New York City, NY; November 2018.

Sex, Gender and Dementia, Symposium – Toward a Sex Dimorphic Neurology, *10th International Meeting on Steroids and Nervous System*. Torino, Italy; February 2019.

Challenges in Using CSF Biomarkers for Operationalizing the NIA-AA AD Research Framework, *American Academy of Neurology Annual Meeting, Invited Science: Aging and Dementia Session*. Philadelphia, PA; May 2019.

Understanding the Impact of Sex and gender in Alzheimer's Disease: A Call to Action. *Frontiers in Alzheimer's and Aging Research, Morehouse School of Medicine*. Atlanta, GA; May 2019.

Sex and Gender Differences in Dementia: Do They Exist and Why Does It Matter? *German Center for Neurodegenerative Diseases (DZNE)*. Bonn, Germany; May 2019

Investigating Fluid-Based Biomarkers for Improved Clinical Decision Making. *Biomarkers & Diagnostics for Complex & Rare Diseases*. Boston, MA; June 2019.

Considering Sex and Gender Differences in, and Sex-Specific Risk Factor for, Alzheimer's Disease Dementia. *Virtual presentation Neuroscience & Public Policy Grand Rounds. University of Wisconsin-Madison*. Madison, WI; April 23, 2020.

Experience Using Codes in the Rochester Epidemiology Project: Why We Proceeded to NLP. *Virtual presentation at Digital health Data for Embedded Pragmatic Clinical Trials/NIA Impact Collaboratory*. October 2020.

Precision Health and –Omics: Alzheimer's Disease. *Virtual presentation at American Academy of Nursing*. November 2020.

Plasma Ceramides are Associated with Specific Cerebrovascular Pathologies. *Virtual presentation at the Keystone Symposia on Molecular and Cellular Biology: Lipidomics of Health and Disease*. March 2021.

Blood-Based Biomarkers for the Early Detection of Alzheimer's Disease. *Virtual presentation at the ISTAART Health Policy PIA Webinar*. May 2021.

Sex and Gender Differences in Cognitive and Brain Aging. *Virtual presentation at the Organization for the Study of Sex Differences (OSSD)*. May 2021.

Combining Epidemiological and Precision Health Approaches to Understand Sex Differences in Alzheimer's Disease. *Virtual presentation at the Campus Alberta Neuroscience Conference, Promoting Health Brain Aging and Preventing Dementia*. May 2021.

Incorporating Sex Differences for Accurate Clinical Interpretation of Biomarkers of Alzheimer's Disease. *Virtual presentation at American Society of Clinical Psychopharmacology*. June 2021.

Alzheimer's Disease in Women: Frequency, Clinical Presentation, Diagnosis, and Risk Factors. *Virtual presentation at the 33rd Annual Update in Psychiatry, Medical University of South Carolina*. June 2021.

Plasma Ceramides as Biomarkers of Cerebrovascular Disease and Dementia. *Virtual Plenary Presentation at the International Lipidomics Society Meeting*. October 2021.

Diversity Considerations for APOE and Immunity Research in Alzheimer's Disease and Related Dementias. *Virtual Plenary Presentation at the APOE and Immunity Alzheimer's Association Virtual Conference*. October 2021.

Sex Differences in Dementia. *Virtual Presentation at the American Physiology Society (APS) New Trends in Sex and Gender Medicine*. October 2021.

Effects of Premenopausal Bilateral Oophorectomy on Cognitive and Physical Aging. *Virtual Grand Rounds, Brigham and Women's/Harvard Center for Reproductive Outcomes of Stress and Aging (ROSA)* November 2021.

Impact of Alzheimer's Pathology on Gait. *Virtual Presentation, National Institute on Aging, Intramural Research Program (IRP) Biology Underlying Moving and Thinking Workshop*. December 2021.

Consideration of Sex and Gender in Research – Using Alzheimer's Disease as an Example. *Virtual Presentation, Vanderbilt University Medical Center*. February 2022.

Other Presentations

Low Serum Potassium in Mid-life Associated with Decreased CSF Amyloid-beta(1-42) in Late-life: A 24-year Longitudinal Study. *Annual Meeting of the Gerontological Society of America*. San Diego, California; November 2003.

Association Between Low Serum Potassium, CSF Amyloid-beta, and Incident Dementia in Two Longitudinal Studies. *National Institute on Aging, Laboratory of Neurosciences*. Baltimore, Maryland; January 2004.

Longitudinal Association Between Serum Total and HDL Cholesterol and Cognition: the Women's Health and Aging Study II. *Annual Meeting of the Gerontological Society of America*. Orlando, Florida; November 2005.

Lipids and Lipid Peroxidation Products as Biomarkers of Alzheimer Disease Progression. *Annual Meeting of the American Association for Geriatric Psychiatry (AAGP)*. New Orleans, Louisiana; March 2007.

Plasma Ceramides are Indicative of Alzheimer's Disease Severity and Correlate with White Matter Integrity. *Annual Meeting of the American Association for Geriatric Psychiatry (AAGP)*. Honolulu, HI; March 2009.

Utility of Fornix Fractional Anisotropy and Hippocampal Volume, Alone and in Combination, in Predicting Conversion. *Annual Meeting of the International College of Geriatric Psychoneuropharmacology (ICGP)*. Athens, Greece; September 2010.

Clinical Effectiveness of FDA-Approved Medications for Alzheimer's Disease Varies Between Women and Men. *Vascular, Behavioural and Cognition (VAS-COG) Conference*. Lille, France; September 2011.

Plasma Ceramides are Elevated in Persons with Autopsy-Confirmed Lewy Body or Alzheimer's Disease Pathology and Correlate with Lewy Body Dementia Severity. *20th World Congress on Parkinson's Disease and Related Disorders*. Geneva, Switzerland; December 2013.

Plasma Sphingolipids Are Associated with Neuroimaging Measures of Amyloid-Beta and Neurodegeneration. *2nd International Workshop on Molecular Medicine of Sphingolipids*. Kloster Banz, Germany; October 2014.

Predicting the Risk of Mild Cognitive Impairment in the Mayo Clinic Study of Aging *American Academy of Neurology Annual Meeting*. Washington, DC; April 2015.

Plasma Ceramides and Glucosylceramides Predict Cognitive Decline Among Cognitively Normal Parkinson's Disease Patients. *3rd International Conference on the Molecular Medicine of Sphingolipids*. French Lick, Indiana; September 2016.

Plasma Ceramide to Glucosylceramide Ratio is Associated with Parkinson's Disease (PD) Severity and Predicts Cognitive Decline Among Cognitively Normal PD Patients without GBA Mutations. *The 13th International Conference on Alzheimer's & Parkinson's Diseases - AD/PD*. Vienna, Austria; March 2017.

Plasma Phospho-Tau181 Increases with Alzheimer's Disease Clinical Severity, Correlates with Tau-PET and Predicts Elevated Brain Amyloid. *Advances in Alzheimer's and Parkinson's Therapies an AAT-AD/PD Focus Meeting*. Torino, Italy; March 2018.

Understanding Sex Differences in the Prevalence, Incidence, and Risk Factors of Alzheimer's Disease. Session 20: Women and Alzheimer's Disease: A Scientific update from the SWHR Interdisciplinary Panel on Alzheimer's Disease. *Organization for the Study of Sex Differences Annual Meeting*. Atlanta, GA; May 2018.

Plasma Phospho-Tau181 Increases with Alzheimer's Disease Clinical Severity and Correlates with Tau-PET and Predicts Elevated Brain Amyloid. *Mayo Clinic-Karolinska Institute Meeting*. Rochester, MN; September 2018.

Comparisons of Plasma and CSF Neurofilament for Change in Neuroimaging Measures and Cognition. *AD/PD 2019. The 14th International Conference on Alzheimer's & Parkinson's Diseases*. Lisbon, Portugal; March 2019.

Sex and Gender Differences in Dementia and Depression- Do They Exist and Why Does It Matter? *International Association of Gerontology and Geriatrics European Region Congress (IAGG-ER) 2019*. Gothenburg, Sweden; May 2019.

Comparison of Variables Associated with CSF Neurofilament: Total-Tau and Neurogranin in a Community-Based Study. *Alzheimer's Association International Conference*. Los Angeles, CA; July 2019.

Brain Health: Risk and Protective Factors, *Leech Lake Ojibwe Tribe, Community Event*. Bemidji, MN; February 2020.

Importance of Examining Vascular Risk Factors and Cognition, Indian Health Services, *Leech Lake Presentation to Indian Health Service (IHS) Staff*. Bemidji, MN; February 2020.

Comparison of CSF Neurofilament Light Chain, Neurogranin, and Total Tau to Longitudinal MRI Neuroimaging Measures of Cortical Thickness and White Matter. *Virtual presentation AAT AD/PD*. Vienna, Austria; April 2020.

Comparison of Cerebrospinal Fluid Phosphorylated Tau 181 and 217 for Cognitive Progression. *Virtual presentation at the Alzheimer's Association International Conference*; July 2020.

Effect of Premenopausal Bilateral Oophorectomy on Physical and Cognitive Aging. *Virtual presentation at the SCORE 2020 (U54) Annual Meeting*; December 2020.

Prediction of Plasma Phosphorylated Tau 181 and 217 for Amyloid and tau PET in the Population-based Mayo Clinic Study on Aging. *Virtual presentation AD/PD*; March 2021.

Update on Blood-Based Biomarkers for the Diagnosis and Prognosis of Alzheimer's Disease Pathology and Clinical Symptoms. *Mayo Clinic Enterprise Neuroscience Seminar*; April 2021.

Future use and Implementation of AD Blood Biomarkers from a Clinical and Epidemiological Perspective. *Alzheimer's Association International Conference*. Denver, CO; July 2021.

Prognostic Use of Plasma Phosphorylated Tau for Incident Mild Cognitive Impairment Among Cognitively Unimpaired Participants. *AD/PD*. Barcelona, Spain; March 2022.

Abstracts

1. Donny EC, Caggiula AR, Jacobs KS, Shaida P, **Mielke MM**. The role of dose and feeding schedule on the acquisition of IV nicotine self-administration in rats. Society for Research on Nicotine and Tobacco. Washington, DC, 1996.
2. Donny ED, Caggiula AR, **Mielke MM**, Strong S, Rose C, Ploskina TM, Jacobs KS, Shupanko CD. Use of progressive ratio schedules in nicotine self-administration. Society for Neuroscience Conference. November 1997; Abstract #103.8.
3. Donny EC, Caggiula AR, Shupenko CD, **Mielke MM**, Booth S, Hoffman AS, Imerito CA, Rose C, McCallum SC. Nicotine self-administration in male and female rats on fixed and progressive ratio schedules of reinforcement. Society for Neuroscience Conference. Los Angeles, November 1998.
4. Donny EC, Caggiula AR, Rose C, Jacobs KS, **Mielke MM**, Strong S. Nicotine self-administration using a progressive ratio schedule of reinforcement. Society for Research on Nicotine and Tobacco. Nashville, 1998.
5. Donny EC, Caggiula AR, Gharib M, Maldovan V, Booth S, Sved AF, **Mielke MM**, Hoffman AS, White AR, Host CK Jr. Differential effects of self-administered and yoked nicotine on blood pressure and heart rate in rats using telemetry implants. Society for Neuroscience Conference. Miami, 1999.
6. Donny EC, Caggiula AR, Rowell PP, Gharib M, Maldovan V, Booth S, Hoffman A, **Mielke M**, McCallum S. Nicotinic receptor binding and plasma and brain nicotine levels following nicotine self-administration in male and female rats. Society for Neuroscience Conference. New Orleans, 2000.
7. Zandi PP, Khachaturian A, Breitner J, **Mielke MM**, Sparks DL. Statins and dementia—Does blood brain barrier permeability matter? International Conference on Alzheimer Disease. Stockholm, Sweden, July 2002.
8. **Mielke MM**, Zandi P, Sjögren M, Steen B, Skoog I. Low, not high, serum total cholesterol and phospholipids associated with increased risk of dementia: a 20-year longitudinal study. Vascular, Behavioural and Cognition (VAS-COG) Conference. Göteborg, Sweden, August 2003.
9. **Mielke MM**, Zandi P, Gustafson D, Sjögren K, Skoog I. High serum total cholesterol in mid- and late-life associated with incident dementia in younger, but not older cohorts of women. International Conference of Alzheimer Disease. Philadelphia, July 2004.
10. Rosenberg P, **Mielke MM**, Samus QM, Rosenblass A, Baker A, Brandt J, Rabins PV, Lyketsos CG. Predictors of nursing home placement in assisted living residents. Academy of Psychosomatics Annual Meeting. Marco Island, November 2004.

11. Zandi PP, **Mielke MM**, Gustafson D, Sjögren M, Östling S, Steen B, Skoog I. Free fatty acids and dementia. Vascular, Behavioural and Cognition (VAS-COG) Conference. Florence, June 2005.
12. Rosenberg PB, **Mielke MM**, Xue Q-L, Fried LP, Carlson MC. IL-6 serum levels, vascular risk factors and mood in a longitudinal study of older women: the Women's Health and Aging Study II. Vascular, Behavioural and Cognition (VAS-COG) Conference. Florence, June 2005.
13. **Mielke MM**, Xue Q-L, Rosenberg PB, Fried LP, Carlson MC. Serum total cholesterol associated with speed of processing, not memory: the Women's Health and Aging Study II. Vascular, Behavioural and Cognition (VAS-COG) Conference. Florence, June 2005.
14. Zandi PP, **Mielke MM**, Shao H, Guo X, Waern M, Sacuiu S, Ostling S, Gustafson D, Skoog I. The association of cholesterol with dementia over time in the prospective population study of women in Gothenburg, Sweden. 10th International Conference on Alzheimer's Disease and Related Disorders. Madrid, July 2006. *Alzheimers Dement* 2006;2(3 Suppl):S43-4.
15. **Mielke MM**, Rosenberg P, Tschanz J, Cook L, Corcoran C, Norton M, Welsh-Bohmer KA, Breitner JC, Lyketsos C, and the Cache County Study. Vascular risk factors and functional decline in dementia. 10th International Conference on Alzheimer's Disease and Related Disorders. Madrid, July 2006. *Alzheimers Dement* 2006;2(3 Suppl):S142.
16. Tschanz J, Cook L, Corcoran C, Norton M, **Mielke MM**, Rosenberg P, Buckley T, Clay C, Welsh-Bohmer KA, Breitner JC, Lyketsos C, and the Cache County Study. Vascular factors and the rate of cognitive decline in dementia. The Cache County Study. 10th International Conference on Alzheimer's Disease and Related Disorders. Madrid, July 2006. *Alzheimers Dement* 2006;2(3 Suppl):S270.
17. Tschanz J, Corcoran C, Norton M, **Mielke M**, Rabins P, Treiber K, Welsh-Bohmer KA, Breitner J, Lyketsos C. Rate of cognitive and functional decline in Alzheimer's disease in the Cache County population. International Neuropsychological Society Conference. Portland, February 2007.
18. **Mielke MM**, Haughey N, Bandaru VVR, Carlson MC, Rabins PV, Lyketsos CG. Development of blood-based lipid biomarkers for Alzheimer's disease prevention. American Association for Geriatric Psychiatry Annual Meeting. New Orleans, March 2007.
19. **Mielke MM**, George M, Kozauer N, Toroney J, Bandeen-Roche K, Chan G, vanZijl P, Pekar J, Mori S, Lyketsos CG, Albert M. Regionally specific diffusion tensor imaging measures in Alzheimer's disease, MCI, and controls. Alzheimer's Association International Conference on Prevention of Dementia. Washington, DC, June 2007. *Alzheimers Dement* 2007;3(3 Suppl):S112-3.
20. **Mielke MM**, Tschanz J, Norton M, Corcoran C, Rabins P, Steinberg M, Carlson M, Green RC, Breitner JCS, Welsh-Bohmer K, Lyketsos CG. Use of anti-cholinesterase inhibitors and memantine in a population-based study of incident AD cases: prevalence of use, characteristics, and relation to mortality. Alzheimer's Association International Conference

- on Prevention of Dementia. Washington, DC, June 2007. Washington, DC, June 2007. *Alzheimers Dement* 2007;3(Suppl 3):S161-2.
21. Rosenberg PB, **Mielke MM**, Carlson MC. O2–01–03: Depression is a risk factor for developing impairment in executive function in a longitudinal study of older women. Alzheimer's Association International Conference on Prevention of Dementia. Washington, DC, June 2007. *Alzheimers Dement* 2007;3(Suppl 3):S182.
 22. **Mielke MM**, Tschanz J, Hayden KM, Rosenberg PB, Corcoran C, Norton M, Rabins PV, Green RC, Welsh-Bohmer KA, Breitner JCS, Munger R, Lyketsos CG. Interaction between APOE ϵ 4 and vascular factors predict rate of cognitive and functional decline in Alzheimer's disease. Vascular, Behavioural and Cognition (VAS-COG) Conference. San Antonio, July 2007.
 23. **Mielke MM**, Haughey N, Bandaru VVR, Rabins PV, Lyketsos CG, Carlson MC. Serum sphingomyelins and ceramides predict development of memory impairment in a population-based longitudinal study. International College of Geriatric Psychoneuropharmacology (ICGP) Conference. San Diego, November 2007.
 24. Tschanz J, Cook L, Corcoran C, Norton M, **Mielke M**, Rabins P, Welsh-Bohmer KA, Treiber K, Buckley T, Breitner JCS, Lyketsos C. Gender differences in the trajectory of cognitive decline in Alzheimer's disease in the Cache County population. 36th Annual Meeting of the International Neuropsychological Society. Waikola, HI, February 2008. *J Int Neuropsychol Soc* 2008;14(S1):220.
 25. Tschanz J, Corcoran C, Shao H, Zandi PP, Norton M, **Mielke M**, Green RC, Rabins PV, Steinberg M, Welsh-Bohmer KA, Breitner JCS, Lyketsos CG. Association between neuropsychiatric symptoms and mortality in a population-based sample of incident Alzheimer's disease and other dementias: the Cache County Dementia Progression Study. 11th International Conference on Alzheimer's Disease and Related Disorders. Chicago, IL, July 2008. *Alzheimers Dement* 2008;4(4 Suppl):T132-3.
 26. **Mielke MM**, Bandaru VVR, Haughey NJ, Schech SA, Chu M, Zerrate M, Carlson MC, Albert M, Bandeen-Roche K, Lyketsos CG. Plasma ceramides are altered early in the course of AD. 11th International Conference on Alzheimer's Disease and Related Disorders. Chicago, IL. July 2008. *Alzheimers Dement* 2008;4(4 Suppl):T324.
 27. Schneider EB†, **Mielke MM**, Yasar S, Carlson MC. Statin use is not associated with cognitive impairment in a cohort of older women. 12th International Conference on Alzheimer's Disease and Related Disorders. Vienna, Austria, June 2009. *Alzheimers Dement* 2009;5(4 Suppl):e13-4.
 28. Tschanz JT, Corcoran C, Green RC, Munger RM, **Mielke MM**, Norton MC, Rabins PV, Welsh-Bohmer KA, Buckley T, Breitner JC, Lyketsos CG. Interaction between C-reactive protein level and APOE genotype in predicting rate of progression in Alzheimer's disease. The Cache County Dementia Progression Study. 12th International Conference on Alzheimer's Disease and Related Disorders. Vienna, Austria, June 2009. *Alzheimers Dement* 2009;5(4 Suppl):P192.

29. **Mielke MM**, Bandaru VVR, Haughey NJ, Miller MI, Mori S, Schech S, Albert M, Lyketsos CG. Plasma ceramides predict hippocampal atrophy and progression in memory impairment among amnesic mild cognitive impairment. 12th International Conference on Alzheimer's Disease and Related Disorders. Vienna, Austria, June 2009. *Alzheimers Dement* 2009;5(4 Suppl):P351-2.
30. Oh ES, **Mielke MM**, Rosenberg PB, Mehta PD, Lyketsos CG. Plasma amyloid level as a predictor of progression to Alzheimer's disease from amnesic mild cognitive impairment (aMCI). 13th International Conference on Alzheimer's Disease and Related Disorders. Honolulu, July 2010.
31. **Mielke MM**, Okonko OC, Mori S, Oishi K, Miller MI, Ceritoglu C, Brown T, Albert M, Lyketsos CG. Fornix fractional anisotropy and hippocampal volume, alone and in combination, predict conversion from MCI to AD. 13th International Conference on Alzheimer's Disease and Related Disorders, Imaging Consortium. Honolulu, July 2010. *Alzheimers Dement* 2010;6(4 Suppl):S16.
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195. Kern S†, Syrjanen J, Blennow K, Zetterberg H, Skoog I, Waern M, Hagen CE, van Harten AC, Knopman DS, Jack CR Jr, Petersen RC, **Mielke MM**. Neurofilament light chain in AD

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 198. Kern S†, Syrjanen J, Blennow K, Zetterberg H, Skoog I, Waern M, Hagen CE, van Harten AC, Knopman DS, Jack CR, Petersen RC, **Mielke MM**. Cerebrospinal fluid neurofilament light protein and risk of mild cognitive impairment in the Mayo Clinic Study of Aging. Alzheimer's Association International Conference, Chicago, IL, July 2018. *Alzheimers Dement* 2018;14(7 Suppl):P782.
 199. Arenaza-Urquijo EM, Przybeliski SA, Machulda MM, Knopman DS, Lowe VJ, **Mielke MM**, Graff-Radford J, Petersen RC, Jack CR Jr, Vemuri P. Cognitive resilience in 80+: predictors and Imaging Correlates of Cognition. Alzheimer's Association International Conference, Chicago, IL. *Alzheimers Dement* 2018;14(7 Suppl):P863.
 200. Stricker NH†, Lundt ES, Albertson SM, Machulda MM, Jack CR Jr, Knopman DS, Petersen RC, **Mielke MM**. Subtle cognitive dysfunction on cogstate is associated with biomarker positive status. Alzheimer's Association International Conference, Chicago, IL, July 2018. *Alzheimers Dement* 2018;14(7 Suppl):P917-8.
 201. Li D†, Hagen CE, Knopman DS, Jack CR Jr, Petersen RC, **Mielke MM**. Longitudinal association between phosphatidylcholines, neuroimaging measures of Alzheimer's disease pathophysiology, and cognition in the Mayo Clinic Study on Aging. Alzheimer's Association International Conference, Chicago, IL, July 2018. *Alzheimers Dement* 2018;14(7 Suppl):P1156.
 202. **Mielke MM**, Syrjanen J, Blennow K, Zetterberg H, Kern S, Skoog I, Machulda MM, Hagen CE, Knopman DS, Jack CR Jr, Petersen RC. Longitudinal associations of plasma neurofilament levels with amyloid-PET, FDG-PET, and cognition among non-demented participants in the Mayo Clinic Study on Aging. Alzheimer's Association International Conference, Chicago, IL, July 2018. *Alzheimers Dement* 2018;14(7 Suppl):P1163-4.
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205. **Mielke MM**. Challenges in using CSF biomarkers for operationalizing the NIA-AA AD Research Framework. Alzheimer's Association International Conference, Chicago, IL, July 2018. *Alzheimers Dement* 2018;14(7 Suppl):P1399.
206. Alonso-Quinones HJ†, Stish BJ, Hagen CE, Knopman DS, Petersen RC, **Mielke MM**. Prostate cancer, use of androgen deprivation therapy and cognitive impairment. Alzheimer's Association International Conference, Chicago, IL, July 2018. *Alzheimers Dement* 2018;14(7 Suppl):P1614-5.
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211. Crivelli SM, Luo Q, Giovagnoni C, Stevens J, Bode G, den Hoedt S, Hobo B, Scheithauer A-L, Walter J, Mulder MT, Exley C, **Mielke MM**, Wouters K, Bieberich E, Schneider A, van den Hove D, Verhaagen J, Losen M, Martinez-Martinez P. Neuronal over-expression of the ceramide transfer protein (CERT_L) increased sphingomyelin and reduced amyloid- β levels and inflammation by diminishing amyloid precursor protein cleavage in a mouse model of Alzheimer's disease. Poster presented at the 6th Venusberg meeting on Neuroinflammation, Bonn, Germany, May 2019.
212. Stang CD, Turcano P, **Mielke MM**, Wennberg AM, Josephs KA, Bower JH, Ahlskog JE, Rocca WA, Boeve BF, Knopman DS, Savica R. Incidence and trends of progressive supranuclear palsy and corticobasal syndrome in Olmsted County: a population based study

- (1995-2005). Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019.
213. Turcano P†, Stang CD, Bower JH, Wennberg AM, Ahlskog JE, **Mielke MM**, Savica R. Levodopa-induced dyskinesia in atypical parkinsonism: a population-based cohort study. Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019. *Neurology* 2019;92(15 Suppl).
 214. Krell-Roesch J, Vassilaki M, Syrjanen JA, Curnutt N, Gritsch D, Vemuri P, **Mielke MM**, Lowe VJ, Jack CR Jr, Kremers WK, Knopman DS, Stokin GB, Petersen RC, Geda YE. Association of cortical versus subcortical A β deposition with depressive and anxiety symptoms: a population-based cross-sectional study. Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019. 2019; 92(15 Suppl).
 215. Carvalho D, St. Louis E, Boeve B, Schwarz C, Przybelski S, Knopman D, Lowe V, **Mielke MM**, Reddy A, Petersen R, Jack C, Vemuri P. Witnessed apneas during sleep are associated with elevated tau-PET signal in the entorhinal cortex in cognitively unimpaired elderly. Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019. 2019; 92(15 Suppl).
 216. Hasan S†, **Mielke MM**, Ahlskog JE, Turcano P, Savica R. Infections leading to hospitalization or sepsis preceding clinically diagnosed alpha-synucleinopathies: a case-control study in Olmsted County, MN (1991-2010). Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019. *Neurology* 2019; 92(15 Suppl).
 217. Scharf EL, Graff-Radford J, Przybelski SA, Knopman DS, Preboske GM, Schwarz CG, Senjem ML, Gunter JL, Kantarci K, **Mielke MM**, Petersen RC, Jack CR Jr, Vemuri P. Cardiovascular and metabolic risk factors for the development of cerebral small vessel disease: longitudinal FLAIR imaging in the Mayo Clinic Study of Aging. Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019. 2019; 92(15 Suppl).
 218. Neth BJ, Graff-Radford J, Przybelski SA, Schwarz CG, Reid RI, **Mielke MM**, Petersen RC, Jack CR Jr, Knopman DS, Vemuri P. Factors related to higher neurobiological capital across the lifespan: Mayo Clinic Study of Aging. Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019. *Neurology* 2019;92(15 Suppl).
 219. Carvalho DZ, St. Louis E, Boeve B, Schwarz C, Przybelski S, Knopman D, Lowe V, **Mielke MM**, Reddy A, Petersen R, Jack C, Vemuri P. Self-reported apneas during sleep associated with Tau-PET accumulation in the entorhinal cortex in cognitively unimpaired elderly. Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019. 2019; 92(15 Suppl).
 220. Ramanan VK, Castillo A, Knopman DS, Lowe V, **Mielke MM**, Petersen RC, Jack CR Jr, Vemuri P. *APOE* and education: effects on regional Tau and FDG metabolism in older adults. Poster presented at the American Academy of Neurology, Philadelphia, PA, May 2019. *Neurology* 2019;92(15 Suppl).

221. Polsinelli A, Stricker N, Christianson TJ, Machulda MM, Kremers WK, **Mielke MM**, Jack CR Jr, Knopman DS, Petersen RC. Presence of preclinical AD pathology in cognitively unimpaired older adults may exacerbate age-related memory decline. Abstract accepted for presentation at the Aging & Cognition 5th International Conference. Zurich, Switzerland. 2019.
222. Vassilaki M†, Aakre JA, Knopman DS, Kremers WK, **Mielke MM**, Geda YE, Machulda MM, Al Fakir R, Roberts RO, Petersen RC. Hearing difficulties, as reported by partner, and the risk for mild cognitive impairment and dementia. Poster presented at Society for Epidemiologic Research 52nd Annual Meeting, Minneapolis, MN, June 2019.
223. Krell-Roesch J, Syrjanen JA, Vassilaki M, Trautwein S, Barisch-Fritz B, Boes K, Woll A, Kremers WK, Machulda MM, **Mielke MM**, Knopman DS, Petersen RC, Geda YE. Physical exercise, apoe e4 genotype and cognitive trajectories: the Mayo Clinic study of aging. *Med Sci Sports Exercise*. 2019 Jun; 51(6):473
224. Machulda MM, Lundt ES, Albertson SM, Spychalla AJ, **Mielke MM**, Jack CR Jr, Kremers WK, Vemuri P, Knopman DS, Bondi MW, Petersen RC. Cortical atrophy patterns of empirically derived incident MCI subtypes in the Mayo Clinic Study of Aging. Poster presented at Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P76-7.
225. Arenaza-Urquijo EM, Przybelski SA, Machulda MM, Knopman DS, Lowe VJ, **Mielke MM**, Reddy AL, Geda YE, Jack CR Jr, Petersen RC, Vemuri P. Stress: better coping associated with lower tau in preclinical Alzheimer's disease. Poster presented at Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P128.
226. Ramanan VK, Castillo A, Knopman DS, Graff-Radford J, Lowe VJ, **Mielke MM**, Petersen RC, Jack CR Jr, Vemuri P. *APOE* and education: effects on regional tau and FDG metabolism in older adults. Poster presented at Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P58.
227. Ramanan VK, Castillo A, Przybelski SA, Graff-Radford J, **Mielke MM**, Lowe VJ, Knopman DS, Jack CR Jr, Petersen RC, Vemuri P. Long-term NSAID therapy in older adults: effects on at(N)V imaging biomarkers. Poster presented at Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019 July;15(7 Suppl):P398-9.
228. Jack CR Jr, Therneau TM, Weigand SD, Wiste HJ, Knopman DS, Vemuri P, Lowe VJ, **Mielke MM**, Roberts RO, Machulda MM, Graff-Radford J, Jones DT, Schwarz CG, Gunter JL, Senjem ML, Rocca WA, Petersen RC. Prevalence of clinically versus biologically defined Alzheimer's spectrum entities using the National Institute on Aging – Alzheimer's Association Research Framework. Alzheimer's Association International Conference, Los Angeles, CA; July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P541-2.
229. Li D†, Hagen CE, Bui HH, Vemuri P, Knopman DS, Jack CR Jr, Petersen RC, **Mielke MM**. Correlation of CSF phospholipids and Alzheimer's disease neuropathology in the

- Mayo Clinic Study of Aging. Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P547.
230. Krell-Roesch J, Syrjanen J, van Harten AC, Vassilaki M, **Mielke MM**, Vemuri P, Machulda MM, Lowe VJ, Jack CR Jr, Kremers WK, Knopman DS, Stokin GB, Petersen RC, Geda YE. Cross-sectional associations between CSF biomarkers of amyloid and tau with neuropsychiatric symptoms: the Mayo Clinic Study of Aging. Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P567.
 231. Vemuri P, Przybelski SA, Lesnick TG, Graff-Radford J, Machulda MM, Reid RI, **Mielke MM**, Lowe VJ, Reddy AL, Petersen RC, Knopman DS, Jack CR Jr. Biomarkers for capturing amyloid-independent effects of vascular health on cognitive decline. Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 15(7 Suppl):P885-6.
 232. Neth BJ, Graff-Radford J, Przybelski SA, Lesnick TG, Schwarz CG, Reid RI, Senjem ML, **Mielke MM**, Petersen RC, Jack CR Jr, Knopman DS, Vemuri P. Relationship between midlife factors and multimodal imaging measures of neurobiological capital: Mayo Clinic Study of Aging. Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P905-6.
 233. Dutt T, Vassilaki M, Christianson TJ, Knopman DS, Kremers WK, **Mielke MM**, Machulda MM, Geda YE, Undavalli C, Roberts RO, Petersen RC. Chronic kidney disease and risk of mild cognitive impairment. Poster presented at Alzheimer's Association International Conference, Los Angeles, CA, July 2019. 2019;15(7 Suppl):P1043.
 234. Machulda MM, Lundt ES, Albertson SM, Spychalla AJ, **Mielke MM**, Jack CR Jr, Kremers WK, Vemuri P, Knopman DS, Bondi MW, Petersen RC. Cortical atrophy patterns of empirically derived incident MCI subtypes in the Mayo Clinic Study of Aging. Poster presented at Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P1141-2.
 235. **Mielke MM**, Kern S, Syrjanen J, Blennow K, Zetterberg H, Knopman DS, Jack CR Jr, Petersen RC. Comparison of variables associated with CSF neurofilament, total-tau, and neurogranin in a community-based study. Alzheimer's Association International Conference, Los Angeles, CA; July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P1225.
 236. Arenaza-Urquijo EM, Przybelski SA, Machulda MM, Knopman DS, Lowe VJ, **Mielke MM**, Reddy AL, Geda YE, Jack CR Jr, Petersen RC, Vemuri P. Stress coping ability associated with tau in preclinical Alzheimer's disease. Poster presented at Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P1374-5.
 237. Varatharajah Y, Lowe VJ, Przybelski SA, Schwarz CG, Senjem ML, **Mielke MM**, Knopman DS, Petersen RC, Graff-Radford J, Iyer R, Jack CR Jr, Vemuri P. Discovering sources of variability in amyloid deposition using data-driven analyses. Poster presented at

- Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):P1406-7.
238. van Harten AC, Wiste HJ, Weigand SD, **Mielke MM**, Kremers WK, Eichenlaub U, Batrla-Utermann R, Dyer RB, Algeciras-Schimnic A, Knopman DS, Jack CR Jr, Petersen RC. Detection of Alzheimer's disease in CSF using automated assays for classical CSF biomarkers. Poster presented at Alzheimer's Association International Conference, Los Angeles, CA, July 2019. *Alzheimers Dement* 2019;15(7 Suppl):1521-2.
 239. Moniruzzaman M, Dastgheyb R, Lo C, **Mielke MM**, Moore D, Letendre S, Rubin LH, Slusher B, Sacktor N, McArthur JC, Haughey NJ. Elevated plasma eicosanoids are associated HIV-disease status and working memory in people living with HIV. *J Neurovirol.* 2019 Oct; 25(Suppl 1):S31.
 240. Stricker NH†, Lundt ES, Christianson TJ, Machulda MM, Kremers WK, Fields JA, **Mielke MM**, Knopman DS, Petersen RC. Normative data that does not exclude participants with mild cognitive impairment results in lower than expected memory impairment rates, particularly in females. Accepted for paper presentation at the 39th Annual National Academy of Neuropsychology Conference, San Diego, CA, November 13-16, 2019.
 241. Faubion L, White TA, Peterson BJ, Singh AK, **Mielke MM**, Miller VM. Effect of natural menopause and hormone therapy on markers of cellular senescence *FASEB J* 2020 Apr; 34(Suppl 1).
 242. Krell-Roesch J, Syrjanen JA, Vassilaki M, Woll , A, Kremers WK, Machulda MM, **Mielke MM**, Knopman DS, Petersen RC, Geda YE. Late-life physical exercise, neuropsychiatric symptoms and the risk of incident mild cognitive impairment. *Med Sci Sports Exerc* 2020; 52(5):267.
 243. Alden EC, Lundt ES, Christianson TJ, Machulda MM, Kremers WK, Jack CR Jr, Knopman DS, Petersen RC, **Mielke MM**, Stricker NH. Defining longitudinal change on the auditory verbal learning test using a conditional normative model to account for practice effects: preliminary validation in preclinical Alzheimer's disease (ODO3-12-01). Oral presentation at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(6 Suppl):e043988.
 244. Zeydan B, Lowe VJ, Reichard RR, Przybelski SA, Lesnick TG, Schwarz CG, Senjem ML, Gunter JL, Parisi JE, Machulda MM, Vemuri P, **Mielke MM**, Knopman DS, Petersen RC, Jack CR Jr , Kantarci OH, Kantarci K. Multiple sclerosis is associated with lower amyloid but normal tau burden on PET. Poster presented at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(5 Suppl):e039179.
 245. Skillbäck T, Blennow K, Zetterberg H, Shams S, Machado A, Pereira J, Lindberg O, **Mielke MM**, Zettergren A, Ryden L, Westman E, Wahlund L-O, Skoog I, Kern S. Sex differences in CSF biomarkers for neurodegeneration and blood-brain barrier integrity. Poster presented at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimer's Dement.* 2020;16(4 Suppl):e038588.

246. Poulakis K, Reid RI, Przybelski SA, Knopman DS, Graff-Radford J, Lowe VJ, **Mielke MM**, Machulda MM, Jack CR Jr, Petersen RC, Westman E, Vemuri P. Heterogeneity in longitudinal deterioration of white matter microstructural integrity in the population and its implications for cognitive aging. Poster presented at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(5 Suppl):e042669.
247. **Mielke MM**, Aakre JA, Algeciras-Schimnic A, Proctor N, Machulda MM, Knopman DS, Jack CR Jr, Petersen RC, Dage JL. Comparison of cerebrospinal fluid phosphorylated tau 181 and 217 for cognitive progression (ODO2-04-05). Oral presentation at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(5 Suppl):e040503.
248. Raghavan Pillai SK, Przybelski SA, Reid RI, Graff-Radford J, Lesnick TG, Zuk SM, Knopman DS, Machulda MM, **Mielke MM**, Petersen RC, Jack CR Jr, Vemuri P. Utility of DTI as a prognostic biomarker in MCI: beyond AD biomarkers (ODO2-12-06). Oral presentation at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(4 Suppl):e039871.
249. Ramanan VK, Wang XK, Przybelski SA, Raghavan Pillai SK, Kosel ML, Batzler AK, Knopman DS, Graff Radford J, Lowe VJ, **Mielke MM**, Jack CR Jr, Petersen RC, Ross OA, Vemuri P. Genome-wide association study of tau-PET: association of variant near *NTNG2* with resistance to tau deposition. (ODO2-11-03). Oral presentation at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(4 Suppl):e044321.
250. Machulda, MM, Lundt ES, Albertson SM, Graff-Radford J, Jack CR Jr, **Mielke MM**, Kremers WK, Knopman DS, Petersen RC, Jones DT, Bondi MW, Vemuri P. White matter hypertension burden varies in empirically derived incident MCI subtypes. Poster presented at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(6 Suppl):e039560.
251. Pudumjee S, Lundt ES, Albertson SM, Alden E, Machulda MM, Kremers WK, Jack CR Jr, DS Knopman, Petersen RC, **Mielke MM**, Stricker NH. A comparison of methods of defining objective cognitive impairment in preclinical Alzheimer's disease based on Cogstate One Card Learning Accuracy performance. Poster presented at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(6 Suppl):e041116.
252. Krell-Roesch J, Vassilaki M, Syrjanen J, Machulda MM, Christianson TJ, Kremers WK, **Mielke MM**, Knopman DS, Petersen RC, Geda YE. Neuropsychiatric symptoms and cognitive trajectories in older adults free of dementia: The Mayo Clinic Study of Aging (ODO3-07-01). Oral presentation at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimers Dement* 2020;16(6 Suppl):e043175.
253. Petersen RC, Wiste HJ, Machulda MM, Geda YE, Kremers WK, Therneau TM, Knopman DS, **Mielke MM**, Lowe VJ, Jack CR Jr. NIA-AA AD Framework Stage 2: Performance in

- the Community (SFRS3-04-02). Oral presentation at Alzheimer's Association International Conference, Virtual Meeting; July 2020. *Alzheimer's Dement.* 2020;16(6 Suppl):e040262.
254. Fortune E†, Morrow MM, Miller VM, **Mielke MM**. The effects of bilateral oophorectomy on daily step counts and skeletal loading estimates and their relationships with bone mineral density and skeletal muscle mass in postmenopausal women. Virtual Presentation at Women's Health Research Symposium, October 2, 2020.
 255. Huo N†, Smith CY, Gazzuola Rocca L, Rocca WA, **Mielke MM**. Pre-menopausal bilateral oophorectomy is associated with an increased risk of restless leg syndrome. Accepted for poster presentation at the Virtual GSA 2020 Annual Scientific Meeting, November 4-7, 2020.
 256. Moser ED, Manemann SM, Larson NB, St. Sauver JL, Takahashi PY, **Mielke MM**, Rocca WA, Olson JE, Roger VL, Decker PA, Killian JM, Bielinski SJ. Association of lipid variability with incident Alzheimers disease and Alzheimers disease related dementias. Poster presented at EPI|Lifestyle 2021 Scientific Sessions, American Heart Association. Virtual meeting, May 20-21, 2021. *Circulation.* 2021;143:AP103.
 257. Machulda MM, Lundt ES, Mester CT, Albertson SM, Raghavan Pillai SK, Reid RI, Schwarz CG, Graff-Radford J, Jack CR Jr, Knopman DS, **Mielke MM**, Kremers WK, Jones DT, Petersen RC, Bondi MW, Vemuri P. Diffusion tensor imaging findings in empirically derived incident MCI subtypes. Alzheimer's Association International Conference, Denver, CO, July 2021. *Alzheimers Dement* 2021;17(Suppl 1):e054998.
 258. Gunter JL, Wiste HJ, Kantarci K, Weigand SD, Vemuri P, Schwarz CG, **Mielke MM**, Graff-Radford J, Knopman DS, Petersen RC, Jack CR Jr. Effects of protocol and scanner changes on segmentation volume estimates in a dedicated crossover data set. Alzheimer's Association International Conference, Denver, CO, July 2021. *Alzheimers Dement* 2021;17(Suppl 1):e056459.
 259. Moloney CM, Labuzan SA, Tranovich J, Crook JE, Siddiqui H, Graff-Radford NR, Lachner C, Dickson DW, **Mielke MM**, Murray ME. Characterizing neurofibrillary tangle maturity of phosphorylated tau fluid biomarkers in Alzheimer's disease. Alzheimer's Association International Conference, Denver, CO, July 2021. *Alzheimers Dement* 2021;17(Suppl 3):e056032.
 260. Cogswell PM, Wiste HJ, **Mielke MM**, Schwarz CG, Weigand SD, Lowe VJ, Therneau TM, Knopman DS, Graff-Radford J, Vemuri P, Senjem ML, Gunter JL, Petersen RC, Jack CR. Baseline CSF phosphorylated tau as an indicator of subsequent tau accumulation on tau PET. Alzheimer's Association International Conference. Denver, CO, July 2021. *Alzheimers Dement* 2021;17(Suppl 4):e052979.
 261. Raghavan SK, Reid RI, Przybelski SA, Lesnick TG, Graff-Radford J, Schwarz CG, Knopman DS, **Mielke MM**, Machulda M, Petersen RC, Jack CR, Vemuri P. Diffusion models reveal white matter microstructural changes with aging, pathology, and cognition. Alzheimer's Association International Conference, Denver, CO, July 2021. *Alzheimers Dement* 2021;17(Suppl 4):e053109.

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RESEARCH INTERESTS

My principle research interests emphasize the epidemiology of neurodegenerative and aging-related diseases. One focus is identifying risk factors for dementia and understanding the role of fluid-based biomarkers for the diagnosis, prediction, and progression of Alzheimer's disease and related dementias. Biomarkers include sphingolipids, inflammatory markers, tau, and amyloid-beta. Another focus of my research is on understanding sex and gender differences in the development and progression of neurodegenerative diseases and other aging-related conditions. This includes examining sex-specific factors as well as factors that may differentially predict risk and progression of disease.

RESEARCH GRANTS AWARDED

Current

R01 AG069052-1 Graff-Radford/Mielke/Vemuri (PI) 04/15/21-03/31/26

Total Costs: \$2,360,353

"What is N?" Towards Operationalizing Neurodegeneration in Alzheimer's and Related Dementias

The overall goal of this application is to understand the etiologies, interrelationships, trajectories, and predictive abilities of neurodegenerative biomarkers in the population. This information is fundamental to operationalizing neurodegeneration markers for clinical trial enrichment and/or surrogate endpoints, and eventually, for clinical use.

U54 AG044170-9 Mielke (PI) 09/30/18-05/31/23

Total Costs: \$7,734,335

Sex-Specific Effects of Endocrine Disruption on Aging and Alzheimer's Disease – Leadership Administration Core and Project 1

The overarching theme of the Mayo Clinic Specialized Center of Research Excellence (SCORE) on Sex Differences is to investigate how abrupt loss of ovarian hormones, caused by bilateral salpingo-oophorectomy (BSO) prior to natural menopause, affects overall aging, physical and cognitive function, and risk for AD pathophysiology.

RF1 AG055151-5 Mielke (PI) 05/01/17-08/31/22

Total Costs: \$3,974,969

Reproductive Risk Factors for Alzheimer's Disease Dementia and Pathology

The overall aims of this proposal are to elucidate the impact of two hormonally-related sex-specific factors for women, pregnancy (e.g., number of pregnancies, hypertensive pregnancy disorders) and menopause (surgically-induced or natural), on the risk of cognitive decline, AD, and neuroimaging measures of A β , neurodegeneration, and cerebrovascular pathologies. Because the literature and our preliminary data suggest that risk scores for cardiovascular disease and dementia are less predictive in women compared to men, we also propose to incorporate these sex-specific factors to develop a more predictive risk score of mild cognitive impairment and AD for women. To accomplish these goals we will utilize the Mayo Clinic Study of Aging and Rochester Epidemiology Project medical records linkage system.

U01 AG06786-36 Petersen/Mielke/Jack (PI) 07/15/19-06/30/24

Total Costs: \$19,439,482

Alzheimer's Disease Patient Registry

The overall goal of this revision is to use the infrastructure of the Mayo Clinic Study of Aging (MCSA), with population-based recruitment of Olmsted County, MN residents aged 70+, to establish a younger population-based sample of persons aged 50-69. We will examine risk factors of mild cognitive impairment (MCI) and dementia, determine the prevalence of abnormal biomarkers of Alzheimer's disease pathophysiology, develop risk models of MCI and AD, and assess the sensitivity of a computerized cognitive battery to early cognitive change.

RF1 AG057547-5 Kantarci (PI) 09/15/17-08/31/22

Total Costs: \$10,638,873

Prevention of Alzheimer's Disease in Women: Risks and Benefits of Hormone Therapy

The aims of this proposal are to utilize the infrastructure of the Kronas Early Estrogen Prevention Study (KEEPS), a randomized clinical trial of oral conjugated estrogen, transdermal estradiol, or placebo, to examine the relationship between hormone therapy and in vivo measures of brain amyloid-beta and tau.

Role: Co-Investigator

R01 HL136348-4 Garovic (PI) 09/01/18-06/30/23

Total Costs: \$2,583,277

Hypertensive Pregnancy Disorders and Future Coronary Artery Disease

The goal of this study is to determine the association between hypertensive pregnancy disorders and coronary artery disease, using confirmed diagnosis based on clinical criteria, and adjusting for known cardiovascular risk factors.

Role: Co-Investigator

P30 AG062677-3 Petersen (PI) 07/01/19-04/30/24

Total Costs: \$11,540,175

Mayo Alzheimer's Disease Research Center

The goals of this project are to recruit and evaluate patients with Alzheimer's Disease and other forms of dementia for use in a variety of research projects.

Role: Co-Principal Investigator of the Biomarker Core

R01 AG061796-4 Li (PI) 09/30/18-04/30/23

Total Costs: \$1,144,570

Harnessing Molecular Networks of Resilience for Therapeutic Discoveries in AD

The goals of this project are to: 1) decipher the direction and cell-specificity of molecular targets in Alzheimer's disease (AD) by leveraging well-characterized brain samples and applying RNA sequencing and cell proteomic approaches; 2) determine the longitudinal change in plasma and CSF measures of these targets; 3) validate the cell-specific molecular changes in iPSC-based models; and 4) match compounds to molecular targets using systems-based pharmacogenomics.

Role: Co-Investigator

R01 AG055529-4 LeBrasseur (PI) 08/15/18-03/31/23

Total Costs: \$2,875,575

Senescence and Growth Differentiation Factors as Modifiers of Aging

The aims of this study are to assess the associations of GDF8, GDF11, and senescence-related proteins.

Role: Co-Investigator

R01 AG056366-5 Vemuri (PI) 09/15/17-05/31/22

Total Costs: \$3,903,910

Exceptional Aging: Identifying Modifiers of Alzheimer's Disease Trajectories

The aims of this proposal are to identify important risk and protective factors for Alzheimer's disease pathology and cognitive decline in a population-based sample, and to apply these factors to discover pathways to "exceptional aging."

Role: Co-Investigator

R01 AG057708-3 Vassilaki (Site PI) 05/01/18-11/30/22

Total Costs: \$596,848

Pathways Linking Neuropsychiatric Symptoms, Neuroimaging Biomarkers, and the Outcome of Incident Mild Cognitive Impairment

The goals of this project are to prospectively examine the relationship between psychiatric symptoms and neuroimaging measures of amyloid-beta, hypometabolism, and cortical thickness in the Mayo Clinic Study of Aging.

Role: Co-Investigator

R01 AG059654-4 Mielke (Site PI) 08/01/18-05/31/22

Total Costs: \$148,316

Blood Biomarkers as Surrogate Endpoints of Treatment Responses to Aerobic Exercise and/or Cognitive Training in Amnesic Mild Cognitive Impairment

The goal of this project is to investigate plasma biomarkers as surrogate endpoints for early detection and prediction of cognitive responses to 3 lifestyle interventions in older adults with amnesic MCI: aerobic exercise (cycling only), cognitive training (speed of processing only), and combined aerobic exercise and cognitive training.

R33 AG 058738-4 St. Sauver/LeBrasseur/Olson (PIs) 08/01/20-05/31/23

Total Costs: \$792,718

Interdisciplinary Infrastructure for Aging Research: Rochester Epidemiology Project

The major goals of this project are to establish an interdisciplinary team with expertise in aging research, epidemiologic methods, biobanking, and medical informatics to create a robust research infrastructure for aging research that includes information on coded medical diagnoses, geriatric syndromes, prescribed and filled medications, and biospecimens on nearly 23,000 persons 65 years of age or older.

R01 AG68007-2 Sohn (PI) 09/15/20-05/31/25

Total Costs: \$636,000

Early Detection of Mild Cognitive Impairment, Alzheimer's Disease and Other Dementias using EHR

The goal is to develop informatics tools and predictive models using routinely-collected electronic health records (EHRs) to better characterize and rapidly identify patients with evidence of mild cognitive impairment and dementia.

DOD Brown/Mielke (Co-PIs) 09/30/21-09/29/25

U.S. Army Medical Research Acquisition Activity W81XWH2110490

Total Costs: \$3,100,000

Post-traumatic Epilepsy: A Longitudinal, Population-Based Medical Record Review Analysis of Incidence, Risk, and Prediction

The goal of this project is to determine the incidence of post-traumatic epilepsy and to identify risk factors.

R03 DK 132121-1 Bancos (PI) 04/01/21-03/31/24

Total Costs: \$238,500

Impact of Abnormal Steroid Metabolome on Cellular Senescence, Frailty and Cognition

The major goals of this project are to determine the association between the abnormal steroid metabolome signature in patients with mild autonomous cortisol secretion and Cushing syndrome and cellular senescence, frailty, and cognition. Completion of this project will identify the steroid signature biomarker of senescence.

R21AG 73967-1 Stricker (PI) 08/15/21-07/31/23

Total Costs: \$437,250

Stricker Learning Span: A Computer Adaptive Word List Memory Test Optimized for Remote Assessment

The goal of this project is to determine the acceptability, efficiency, construct validity and criterion validity of the Sticker Learning Span.

UF1 NS125417-1 Petersen (PI) 09/23/21-07/31/26

MarkVCID Validation in the General Community

Total Costs: \$6,072,241

The goal of this application is to assess biomarkers of small vessel vascular contribution to cognitive impairment and dementia in the general population.

Completed

Mielke effort ended on this grant

R01 AG054787-2 Windham/Vemuri 04/01/19-03/31/23

Total Costs: \$1,865,023

Mobility Decline: Relations to Cerebral Perfusion, Small Vessel Disease Progression, and Longitudinal Blood Pressure Exposures

The major goal of this project is to determine optimal BP levels associated with better mobility across cerebral perfusion levels in older African Americans and whites. Findings will elucidate novel central contributors to poorer mobility in older adults, shed light on contributors to mobility inequities among African Americans, and provide evidence for refining BP management strategies to maximize mobility in older AA and white adults.

Role: Co-Investigator

NA (Internal) Sohn (PI) 07/01/20-06/30/21

Total Costs: \$125,000

NIH Relief Grant - Early Detection of Mild Cognitive Impairment, Alzheimer's Disease and Other Dementias using EHR

The goal is to develop informatics tools and predictive models using routinely-collected electronic health records (EHRs) to better characterize and rapidly identify patients with evidence of mild cognitive impairment and dementia.

Alzheimer's Drug Discovery Foundation Lowe (PI) 03/01/19-02/28/21

Targeting Neuroinflammation as a Contributing Pathology in Alzheimer's Disease Dementia

The major goal of this project is to determine if neuroinflammation, as measured by PET imaging, is associated with: 1) Ab plaques in cognitively impaired vs. cognitively unimpaired participants; 2) rate of cognitive decline *preceding* PET imaging by 5 or more years; and 3) plasma biomarkers of inflammation.

Role: Co-Investigator

N/A Mielke (PI) 02/01/18-1/31/21

Minnesota Partnership for Biotechnology and Medical Genomics

Total Costs: \$350,000

Targeting Tau Phosphorylation and Missorting to Treat Alzheimer's Diseases

The goals of this project are to enhance our understanding by which intracellular tau disrupts synaptic function and impairs cognition.

1 R01 AG049704-4 Mielke (PI) 09/01/15-10/31/20
Total Costs: \$1,450,444 NCE

Sphingolipids and Inflammation in the Development and Progression of Alzheimer's

The overarching goal of this project is to determine the temporal relationship between plasma and CSF sphingolipids (e.g., ceramides, sphingomyelins) and measures of A β pathology, neurodegeneration, and cognitive decline. We will also determine whether inflammatory processes (e.g., TNF- α and IL-6) modify these associations.

Biogen Vassilaki (PI) 09/30/19-09/29/20
Total Costs: \$58,266

Risk Factors Associated with Differences in Alzheimer's Disease Progression

The goal is to characterize the progression of Alzheimer's disease (AD) among amyloid positive cohort participants with MCI or mild AD and to examine factors possibly associated with differences in progression.

Role: Co-Investigator

Mielke effort ended on this grant (2020)

RF1 AG059009-2 Petersen/Weiner (PIs) 09/01/18-06/30/23
Total Costs: \$6,230,869

Validation of Online Methods to Predict and Monitor Cognitive Decline

The overarching goal of this application is to develop, implement, and validate improved online methods to predict and monitor cognitive and functional decline in elders who have normal cognition or mild cognitive impairment.

Role: Co-Investigator

R21 AG058738-1 St. Sauver (PI) 08/01/18-07/31/20
Total Costs: \$437,250

Interdisciplinary Infrastructure for Aging Research: Rochester Epidemiology Project

The goals of this application are to develop a novel research infrastructure via interdisciplinary partnerships to address key aging research questions and to examine associations between novel biomarkers and a wide range of important aging-related health outcomes.

Role: Co-Investigator

Biogen Mielke (PI) 01/12/18-06/11/20
Total Costs: \$328,614

Addressing Scientific Knowledge Gaps in Alzheimer's Disease. A Retrospective Data Analysis

Addressing Scientific Knowledge Gaps in Alzheimer's Disease. A Retrospective Data Analysis

The goals of this project are to examine a combination of modifiable and non-modifiable risk factors and to determine whether they influence the rate of progression of cognitive decline from normal cognition to mild cognitive impairment (MCI) and prodromal Alzheimer's dementia (AD) (i.e., brain amyloid positive amnesic MCI [pAD]), to dementia and AD diagnosis and death.

W81XWH-15-1-0573-1 Brown/Mielke (Co-PI) 09/15/15-09/14/19
Department of Defense
Total Direct Costs: \$500,000

Understanding the Connection Between Traumatic Brain Injury and AD: A Population-based Study

Most studies of traumatic brain injury have been conducted on select populations. This study will ascertain the incidence of TBI in Olmsted County, MN between 1985 and 1999 using the Rochester Epidemiology Medical Records linkage system. We will then longitudinally determine whether TBI, including number of events and severity, is associated with subsequent risk of Alzheimer's disease, Parkinson's disease, and other neurodegeneration conditions.

Role: Co-Principal Investigator

Biogen Mielke/Roberts (PI) 07/01/16-02/28/19
Total Costs: \$308,667 NCE

Predicting Elevated Brain Amyloid-Beta among Individuals with Cognitive Impairment

The goal of this project is to identify a method/risk score to determine, at the primary care level, who is most likely to have significant brain amyloid-beta deposition.

Role: Co-Principal Investigator

Lundbeck Mielke (PI) 10/30/16-10/29/18
Total Costs: \$100,992

Identifying a Sensitive Cognitive Endpoint for Randomized Controlled Trials of Early Alzheimer's Disease

The goal of this study is to identify a composite of neuropsychological tests that are sensitive to amyloid-beta (A β)-related cognitive change among patients with prodromal and very early Alzheimer's disease.

P50 AG44170-5 Miller (PI) 09/01/12-05/31/18
Total Direct Costs: \$4,143,079

Sex-specific Risk for Vascular Dysfunction and Cognitive Decline. Project 1 – Hypertension in Pregnancy and Future Cardiovascular Disease

This program-project seeks to develop a Specialized Center for Research on Sex Differences at Mayo Clinic. Dr. Mielke is involved in Project 1 of the proposed center. The overarching hypothesis of Project 1 is that a history of hypertensive pregnancy disorders, in general, and preeclampsia, in particular, are risk factors for mortality (all-cause and cardiovascular), future CVD, and cognitive impairment. We will test this hypothesis using the unique population-based records-linkage system of the Rochester Epidemiology Project.

Role: Co-Investigator

Grant Number: NA Mielke/Roberts (PI) 07/01/16-05/31/18
Roche Pharmaceuticals
Total Costs: \$573,455

Alzheimer's Disease Registry with Roche

The overall aim of this application is to identify a combination of modifiable and non-modifiable risk factors that can help identify persons at risk for mild cognitive impairment (MCI; including prodromal AD defined as biomarker positive amnesic MCI [pAD]) and dementia outcomes (including biomarker positive Alzheimer's dementia [AD]) in a population-based setting.

Role: Co-PD/PI

2P30 MH75673-10 Mielke (PI) 07/01/11-06/30/17
Total Direct Costs: \$73,181

Center for Novel Therapeutics for HIV-Associated Cognitive Disorders

The primary goals of the Surrogate Marker / Pharmacokinetic Core will be to: 1) Assist in the development and monitoring of surrogate markers for HIV-associated neurocognitive disorders (HAND). 2) To provide mentorship and consultation for Neuro-AIDS researchers in the development of clinically useful surrogate markers for HAND and to validate these as predictive and associative markers for cognitive impairment and as surrogate markers for therapeutic effectiveness.

Role: Principal Investigator of Sub-contract

Biogen FP89010 Mielke (PI) 07/01/16-06/30/17

Total Costs: \$197,129

Identifying Predictors of Elevated Brain Amyloid-Beta

The overarching goal of this proposal is to identify a method/risk score to determine, at the primary care level, who is most likely to have significant amyloid-beta deposition.

Role: Principal Investigator

U01 AG016976-18 Boeve (PI) 07/01/16-06/30/17

Total Direct Costs: \$156,869

Plasma Biomarkers in Lewy Body Disease (NACC projects 2016-04 and 2016-J1-08)

The primary goals of this project are to use proteomic and lipidomic approaches to determine whether we can discriminate Dementia with Lewy Bodies (DLB) from other neurodegenerative disease (Alzheimer's disease, Parkinson's disease) and to identify subgroups of DLB.

Role: Co-Investigator

FP00074480 Mielke (PI) 01/01/14-10/31/16

Michael J. Fox Foundation for Parkinson's Research

Total Direct Costs: \$215,646

Assessment of Plasma Glucosylceramides and Ceramides as Biomarkers of Cognitive Impairment in Parkinson's Disease

This study aimed to determine whether plasma ceramide and glucosylceramide levels are associated with cognitive impairment in patients with Parkinson's disease (PD), including those with and without *GBA* mutations, and predict rate of cognitive decline. We used blood and data already collected from 500 PD patients enrolled in the Delpark/Landscape study and follow-up for up to 3 years. This project determined the utility of plasma ceramide and glucosylceramide as blood-based cognitive biomarkers in PD.

Role: Principal Investigator

Biogen FP89323 Mielke (PI) 06/01/16-09/15/16, NCE

Total Direct Costs: \$25,223

Identifying a More Sensitive Alzheimer's Cognitive Composite Endpoint for Preclinical Alzheimer's Diseases Randomized Controlled Trials

The overarching goal of this proposal is to determine whether a more sensitive Preclinical Alzheimer Cognitive Composite (PACC) score can be developed by examining an extensive neuropsychological battery without a priori specifying which domains tests must come from. Results from the Mayo Clinic Study of Aging will be compared to those of these Washington University Adult Children's Study and the Australian Imaging Biomarker and Lifestyle study.

Role: Principal Investigator

EU #1-NEURO2 Geda (PI) 01/01/11-01/01/16

St. Anne's University Hospital Brno

Total Direct Costs: \$747,825

Neuroepidemiology – Aging, Pre-Clinical Alzheimer's Disease and Dementia

The goal of this study is to design and conduct a study of aging and mild cognitive impairment in Brno and Prague, Czech Republic. The study will examine epidemiological and translational research to identify risk factors, putative protective factors, and biomarkers of cognitive aging and mild cognitive impairment (MCI).

Role: Co-Investigator

FP00082085

Mielke (PI)

03/01/15-8/31/15

Michael J. Fox Foundation for Parkinson's Research

Total Direct Costs: \$72,573

Comparison of Pre- and Post-mortem CSF Levels of Proteins and Lipids

Few studies have utilized post-mortem CSF samples, for a variety of reasons. This pilot study examined the correlation between pre- and post-mortem CSF levels of alpha-synuclein, amyloid-beta, tau, and sphingolipids, which are all biomarkers of interest for PD.

Role: Principal Investigator

U01 AG037526-5

Mielke (PI)

09/01/11-05/31/15

Total Direct Costs: \$1,806,089

Longitudinal Study of Lipids and APOE in the Development of AD and AD Pathology

The overall aim of the proposed study was to examine, in the 30-year follow-up of participants in the Baltimore Longitudinal Study of Aging, whether peripheral lipids (sphingolipids, fatty acids, cholesterol and cholesterol esters) modify the association between ApoE and clinical onset of MCI or AD.

Role: Principal Investigator

Mayo Clinic

Mielke (PI)

06/2014-05/2015

Development - Gifts from Benefactors

Intersect Sphingolipid and Inflammatory Pathways, AD Pathology and Cognitive Decline

The goals of this study were to understand the relationship between sphingolipids, inflammation, and the development and progression of Alzheimer's disease pathology and cognitive decline.

Role: Program Director/Principal Investigator

ADRC Pilot Project (P50 AG 16574) Mielke (PI)

05/01/14-04/30/15

Total Direct Costs: \$25,000

Change in Plasma Ceramide and Glucosylceramides with the Clinical Phenotype of Lewy Body Dementia

The present proposal seeks to examine whether plasma ceramides and glucosylceramides differ among individuals at high-risk of developing DLB (i.e., those with idiopathic REM Sleep Behavior Disorder [iRBD] and non-amnesic MCI cases), and whether the lipids associate with disease severity, including known neuroimaging measures of DLB.

Role: Principal Investigator

Driskill Foundation

Petersen/Mielke (PIs)

04/01/12-03/31/15

Walter S. and Lucienne Driskill Foundation

Total Direct Costs: \$2,160,348

Computerized Assessment and Neuroimaging in Study of Aging Younger Cohort

The major goal of this project was to examine the role of a computerized instrument (CogState) as a first-line screen to identify persons who should have more extensive cognitive testing using standard pencil-and-paper neuropsychological tests and more invasive and expensive Alzheimer Disease biomarker evaluations.

Role: Co-Program Director/Principal Investigator

20131207.01-1 Mielke (PI) 01/20/14-01/19/15

Alzheimer's Drug Discovery Foundation

Total Direct Costs: \$6,960

Evaluation of Changes in Plasma Ceramides and Amino Compounds with an mTOT

This study aims to examine ceramides and amino acids as potential mechanisms by which a new type of insulin sensitizer (Mitoglitazone) is associated with improved FDG PET metabolism in Alzheimer's disease patients. The proposed study will assay plasma levels of ceramides and amino acids at baseline and 12-week follow-up in AD patients randomized to MSDC-C006 (mTOT modulator Mitoglitazone; n=16) or placebo (n=13).

Role: Principal Investigator

20121214-1 Mielke (PI) 03/01/13-08/31/14

Alzheimer's Drug Discovery Foundation

Total Direct Costs: \$100,000

Plasma Lipidomic Comparison of Individuals with Alpha-Synuclein Comparison of Individuals with Alpha-Synuclein, Amyloid, or Normal Pathology

The overall goal of this project was to identify plasma biomarkers (focusing on lipids and alpha-synuclein levels) associated with alpha-synuclein brain pathology that could be used as early clinical measures for the early and accurate differential diagnosis of DLB.

Role: Principal Investigator

U01 AG06786 Petersen (PI) 09/01/09-08/31/14

Total Direct Costs: \$5,227,355

Alzheimer's Disease Patient Registry

The overall goal of this revision is to examine the prevalence, incidence, and risk factors for Mild Cognitive Impairment.

Role: Co-Investigator

R01 AG21136 Tschanz (PI) 07/01/09-06/30/11

Total Direct Costs: \$1,269,641

Progression of Dementia: A Population Study

This project will continue to follow enrolled incident dementia cases identified by the Cache County Study on Memory in Aging, along with their caregivers, to study genetic and environmental factors (and their interactions) which affect cognitive, behavioral, and functional decline.

Role: Co-Investigator

U01 AG033655 Albert (PI) 04/2009-06/2011

Total Direct Costs: \$109,033

Biomarkers of Cognitive Decline in Older Individuals: The BIOCARD Cohort

The goal of this project was to identify predictors of cognitive decline among normal individuals. The domains of investigation being examined include: cognitive testing, magnetic resonance imaging, cerebrospinal fluid, and blood.

Role: Co-Investigator

1R03 AG032427-01A1 Mielke (PI) 09/30/09-05/13/11

Total Direct Costs: \$90,000

Longitudinal Study of Membrane Lipids: Preclinical Alzheimer's Biomarkers

This project will examine blood-based lipids (sphingolipids, cholesterol, oxysterols, and lipid peroxidation products) as predictors of cognitive impairment and dementia in the Women's Health and Aging Study (WHAS) II.

Role: Principal Investigator

Lyketsos/Mielke (Co-PIs) 08/01/07-07/31/10

George and Cynthia Mitchell Foundation

Total Direct Costs: \$300,000

This study, in collaboration with Baylor College of Medicine and University of Texas Medical Branch at Galveston, seeks to identify blood-based biomarkers of AD including lipids, lipid peroxidation products and amyloid-beta oligomers using well-defined normal controls, MCI, and AD participants and sophisticated statistical methods to predict progression.

Role: Co-Principal Investigator

1R21 NS060271 Mielke (PI) 07/15/07-06/30/10

Total Direct Costs: \$275,000

Blood-Based Lipid Biomarkers Reflective of Alzheimer-Associated Neurodegeneration

The aim of this R21 grant, submitted to NINDS, is to correlate the longitudinal changes in blood lipid biomarkers and neurodegeneration, as assessed by morphometric MRI, to determine whether these markers are indirect indicators of neurodegeneration. Blood and imaging data from normal controls, MCI, and AD participants already obtained in an ASL/DTI imaging study will be used.

Role: Principal Investigator

1R21 AG028754-01A1 Mielke (PI) 07/01/07-06/30/10

Total Direct Costs: \$275,000

Development of Blood Lipid Biomarkers for Alzheimer Disease

The aim of this R21 grant is to examine blood-based lipid levels as potential biomarkers of neurodegeneration and progression of Alzheimer's disease using participants from the Johns Hopkins Alzheimer Disease Research Center.

Role: Principal Investigator

ADRC Pilot Project (5 P50 AG05146) Mielke (PI) 04/01/07-03/31/08

Total Direct Costs: \$29,130

Blood Lipid Biomarkers as Indicators of AD-Associated Neurodegeneration

This study examines the cross-sectional correlation between blood-based lipid levels and morphometric MRI measures in patients with AD, MCI, and cognitively normal controls.

Role: Principal Investigator

1R01 AG19825 Carlson (PI) 09/20/02-09/29/07

Yearly Direct Costs: \$328,969

Cognitive Pathways to Disability

This study complements the Women's Health and Aging Study II to understand how age-related changes in various domains of cognition may exert downstream effects on physical function and the implementation of compensatory strategies.

Role: Co-Investigator

Older Americans Independence Center (OAIC) Pilot Mielke (PI) 08/01/05-08/31/06

Brain-derived and Peripheral Lipid Levels as Predictors of Cognitive and Physical Frailty

Total Direct Cost: \$25,000

The funding for this study was awarded through the National Institute on Aging-supported Older Americans Independence Center (OAIC) of the Johns Hopkins Medical Institutions. The focus of this study is to examine brain-derived and peripheral lipids as predictors of both cognitive and physical frailty.

Role: Principal Investigator

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§Indicates co-senior author

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