



**School of Medicine  
and Public Health**  
UNIVERSITY OF WISCONSIN-MADISON

# Natascha Merten, PhD, MS

Assistant Professor  
Department of Population Health Sciences  
Department of Medicine

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## EDUCATION

Postdoc in Epidemiology and Population Health, University of Wisconsin (UW)-Madison, 2019–2021

PhD in Epidemiology (Graduated with PhD magna cum laude), University of Bonn, 2019

- Dissertation: “The Auditory System and Its Relation to Cognitive Function in the Process of Aging”
- Advisor: Monique M.B. Breteler

MS in Psychology, University of Bonn, 2014

BS in Psychology, University of Bonn, 2012

## CURRENT POSITION

Assistant Professor, Department of Population Health Sciences and Department of Medicine,  
School of Medicine and Public Health, UW-Madison, 2022

## OTHER POSITIONS

Affiliate, Wisconsin Alzheimer’s Disease Research Center, UW-Madison, 2022

Affiliate, Department of Ophthalmology and Visual Sciences, UW-Madison, 2022

Affiliate, Center for Demography of Health and Aging, UW-Madison, 2020

Member, McPherson Eye Research Institute, UW-Madison, 2020

## PAST POSITIONS

Scientist, Department of Medicine, UW-Madison, 2021–2022

Postdoctoral Researcher, Department of Population Health Sciences, UW-Madison, 2019–2021

Visiting Research Scholar, Department of Population Health Sciences, UW-Madison, 2017

Student Assistant, Section of Methodology, Psychological Assessment, and Evaluation, Department of  
Psychology, University of Bonn, 2013–2014

## RESEARCH INTERESTS

Epidemiology

Sensory Loss

Brain Aging

Cognitive Decline and Dementia

## **HONORS AND AWARDS**

Awardee to participate in UW-Madison Wisconsin Idea Seminar 2023  
GSA 2022 Emerging Scholar and Professional Organization-Carol Schutz Registration Award, 2022  
UW-Madison Academic Staff Professional Development Grant, 2022  
AAIC 2022 Conferences Attendance Fellowship, 2022  
UW-Madison Alzheimer's Disease and Related Dementias Research Day 2022 Poster Award, 2022  
GSA 2021 Emerging Scholar and Professional Organization-Carol Schutz Registration Award, 2021  
UW-Madison Postdoctoral Association Postdoc Excellence Award in Mentoring, 2021  
Wisconsin Alzheimer's Disease Research Center REC Professional Development Award, 2021  
GSA 2020 Health Sciences Section Student Registration Award, 2020  
Walsh Research Travel Award by the UW-Madison McPherson Eye Research Institute, 2020  
Rankin/Skatrud Travel Award by the Rankin Memorial Fund, University of Wisconsin Foundation, 2020  
Midwest Auditory Research Conference 2019 Travel Grant, 2019  
Oral Presentation Award at the BIGS CPS 2018 student retreat, 2018  
Bonn International Graduate Schools Travel Award, University of Bonn, 2018  
Rising Star Award and Travel Award for the U13 Sensory Impairment & Cognitive Decline Workshop, National Institute on Aging and American Geriatrics Society, 2017  
UW-Madison-DZNE Joint Pilot Project Funding (\$10,000), 2016

## **PROFESSIONAL SOCIETY MEMBERSHIPS**

2021 – date International Society to Advance Alzheimer's Research and Treatment (ISTAART)  
2021 – date Sense Network  
2020 – 2022 German Psychological Society (DGPs), Biological and Neuropsychology section and  
Developmental Psychology section  
2019 – date Society for Epidemiologic Research  
2019 – date Gerontological Society of America  
Section Member: Health Sciences  
Interest Group Member: Alzheimer's Disease Research; Brain; Epidemiology of Aging;  
Sensory Health Interest Group  
2019 – date HCSRN-OAICs AGING Initiative  
2017 – date American Auditory Society

## PEER-REVIEWED PUBLICATIONS

underlines indicate Dr. Merten's supervised/mentored staff member or advisee.

★ indicates Dr. Merten as corresponding/senior author.

1. Rogers, C., Salzman, M., Li, Z., Russell, L. **Merten, N.** Lillesand, H., & Mowat, F. Subjective vision assessment in companion dogs using dogVLQ demonstrates age-associated visual dysfunction. In press at *Frontiers in Veterinary Science*
2. Schubert, C.R., Paulsen, A.J., Pinto, A.A., Carlsson, C.M., Chappell, R.J., Chen, Y., Engelman, C.D. Hancock, L.M., Johnson, S.C., Cruickshanks, K.J., & **Merten, N.** ★ Environmental Exposures to Cadmium and Lead and Longitudinal Biomarker Levels of Alzheimer's Disease and Neurodegeneration. In press at *Alzheimer Disease and Associated Disorders*.
3. **Merten, N.**, Paulsen, A.J., Pinto, A.A., Carlsson, C.M., Chappell, R.J., Chen, Y., Engelman, C.D. Hancock, L.M. Johnson, S.C., Lim, Y.Y., & Schubert, C.R. Associations of Midlife Lifestyle and Health-Related Factors with Longitudinal Blood-Based Biomarker Levels of Alzheimer's Disease and Neurodegeneration. In press at *Journal of Alzheimer's Disease*.
4. Salzman, M., **Merten, N.**, Panek, W., Fefer, G., Mondino Vero, A., Westermeyer, H., Gruen, M., Olby, N., & Mowat, F. Age-associated changes in electroretinography measures in companion dogs. In press at *Documenta Ophthalmologica*.
5. Dillard, L.J., Nelson-Bakkum, E., Schultz, A.A., **Merten, N.**, & Malecki, K.C. Associations of Dietary Intake and Self-Reported Hearing Loss: Findings from the Survey of the Health of Wisconsin. *Journal of Speech, Language and Hearing Research*. Epub ahead of print. [https://doi-org.ezproxy.library.wisc.edu/10.1044/2023\\_JSLHR-22-00473](https://doi-org.ezproxy.library.wisc.edu/10.1044/2023_JSLHR-22-00473)
6. **Merten, N.**, Schultz, A.A., Walsh, M.C., van Landingham, S.W., Peppard, P.E., Ryff, C.D., & Malecki, K.C. (2023). Psychological Distress and Well-Being Among Sensory Impaired Individuals During COVID-19 Lockdown Measures. *Annals of Epidemiology*. Jan 10;S1047-2797(23)00002-9. <https://doi.org/10.1016/j.annepidem.2023.01.002>
7. Dillard, L.K., Pinto, A.A., Mueller, K.D., Schubert, C.R., Paulsen, A.J., **Merten, N.**, Fischer, M.E., Tweed, T.S., & Cruickshanks, K.J. (2022). Associations of hearing loss and hearing aid use with cognition, health-related quality of life and depressive symptoms. *Journal of Aging and Health*, 0(0). <https://doi.org/10.1177/08982643221138162>
8. Schubert, C.R., Fischer, M.E., Pinto, A.A., Paulsen, A.J., Chen, Y., Huang, G.-H., Klein, B.E.K., Tsai, M. Y., **Merten, N.**, & Cruickshanks, K.J. (2023). Inflammation, metabolic dysregulation and environmental neurotoxins and risk of cognitive decline and impairment in midlife. *Neurological Sciences*, 44, 149-157. <https://doi.org/10.1007/s10072-022-06386-0>
9. Paulsen, A.J., Schubert, C.R., Pinto, A.A., Chappell, R.J., Chen, Y., Cruickshanks, K.J., Engelman, C.D., Ferrucci, L., Hancock, L.M., Johnson, S.C., & **Merten, N.** ★ (2022). Associations of Sensory and Motor Function with Blood-Based Biomarkers of Neurodegeneration and Alzheimer's Disease in Midlife. *Neurobiology of Aging*, 120, 177-188. <https://doi.org/10.1016/j.neurobiolaging.2022.08.008>

10. **Merten, N.**, Pinto, A.A., Paulsen, A.J., Chen, Y., Schubert, C.R., & Cruickshanks, K.J. (2022). Better Cognitive Function in Younger Generations - Insights from two Cohort Studies of Middle-Aged to Older Adults in Wisconsin. *Maturitas*, 162, 31-36. <https://doi.org/10.1016/j.maturitas.2022.04.002>
11. **Paulsen, A.J.**, Pinto, A.A., **Merten, N.**, Schubert, C.R., Chen, Y., Klein, B.E.K., Meuer, S.M., & Cruickshanks, K.J. (2022) Association of central retinal arteriolar and venular equivalents with brain-aging and macular ganglion cell-inner plexiform layer thickness. *Ophthalmic Epidemiology*, 30:1, 103-111. <https://doi.org/10.1080/09286586.2022.2057550>
12. Dillard, L.K., Walsh, M.C., **Merten, N.**, Schultz, A.A., & Cruickshanks, K.J. (2022). Prevalence of self-reported hearing loss and associated risk factors: Findings from the Survey of the Health of Wisconsin. *Journal of Speech, Language, and Hearing Research*, 65(5), 2016-2028. [https://doi.org/10.1044/2022\\_JSLHR-21-00580](https://doi.org/10.1044/2022_JSLHR-21-00580)
13. Chen, Y., Hetzel, S., Pinto, A.A., Paulsen, A.J., Schubert, C.R. Hancock, L.M., Klein, B.E.K., **Merten, N.**, & Cruickshanks, K.J. (2022). The pupil constriction to light is associated with cognitive measures in middle-aged and older adults. *Aging Clinical and Experimental Research*, 34, 1655-1662. <https://doi.org/10.1007/s40520-022-02097-w>
14. **Schubert, C.R.**, Pinto, A.A., Paulsen, A.J., **Merten, N.**, & Cruickshanks, K.J. (2022) Effect of Long-Term Storage on Blood Biomarkers for Alzheimer's Disease and Neurodegeneration. *Journal of Alzheimer's Disease*, 85(3), 1021-1029. <https://doi.org/10.3233/JAD-215096>
15. **Merten, N.**, Pinto, A.A., Paulsen, A.J., Chen, Y., Dillard, L.K., Fischer, M.E., Ryff, C.D., Schubert, C.R., & Cruickshanks, K.J. (2022). The Association of Psychological Well-being with Sensory and Cognitive Function and Neuronal Health in Aging Adults. *Journal of Aging and Health*, 34(4-5), 529-538. <https://doi.org/10.1177/08982643211046820>

*Prior to Faculty Appointment at the University of Wisconsin*

16. **Merten, N.**, Bönninger, M.M., Herholz, S.C., & Breteler, M.M.B. (2022). The Associations of Hearing Sensitivity and Different Cognitive Functions with Perception of Speech-in-Noise. *Ear and Hearing*, 43(3), 984-992. <https://doi.org/10.1097/AUD.0000000000001154>
17. **Merten, N.**, Fischer, M.E., Dillard, L.K., Klein, B.E.K., Tweed, T.S., & Cruickshanks, K.J. (2021). Benefit of Musical Training for Speech Perception and Cognition Later in Life. *Journal of Speech, Language, and Hearing Research*, 64(7):2885-2896. [https://doi.org/10.1044/2021\\_JSLHR-20-00588](https://doi.org/10.1044/2021_JSLHR-20-00588)
18. Coors, A., **Merten, N.**, Ward, D.D., Schmid, M., Breteler, M.M.B., & Ettinger, U. (2021). Strong Age but Weak Sex Effects in Eye Movement Performance in the General Adult Population: Evidence from the Rhineland Study. *Vision Research*, 178, 124-133. <https://doi.org/10.1016/j.visres.2020.10.004>
19. Paulsen, A.J., Fischer, M.E., Pinto, A.A., **Merten, N.**, Dillard, L.K., Schubert, C.R., Huang, G.H., Klein, B.E.K., Tweed, T.S. & Cruickshanks, K.J. (2021). Incidence of hearing impairment and changes in pure tone average across generations. *JAMA Otolaryngology Head & Neck Surgery*, 147(2),151-158. <https://doi.org/10.1001/jamaoto.2020.4352>
20. Paulsen, A.J., Pinto, A.A., **Merten, N.**, Chen, Y., Fischer, M.E., Huang, G.H., Klein, B.E.K., Schubert, C.R., & Cruickshanks, K.J. (2021). Factors associated with the thickness of the macular ganglion cell-inner

plexiform layer in a cohort of middle-aged U.S. adults. *Optometry and Vision Science*, 98(3), 295-305.  
<https://doi.org/10.1097/OPX.0000000000001650>

21. **Merten, N.**, Paulsen, A.J., Pinto, A.A., Chen, Y., Dillard, L.K., Fischer, M.E., Huang, G.H., Klein, B.E.K., Schubert, C.R., & Cruickshanks, K.J. (2020). Macular Ganglion Cell-Inner Plexiform Layer as a Marker of Cognitive and Sensory Function in Midlife. *Journals of Gerontology: Medical Sciences*, 75(9), e42–e48.  
<https://doi.org/10.1093/gerona/glaa135>
22. **Merten, N.**, Fischer, M.E., Tweed, T.S., Breteler, M.M.B., & Cruickshanks, K.J. (2020). Associations of Hearing Sensitivity, Higher-order Auditory Processing, and Cognition over Time in Middle-aged Adults. *Journals of Gerontology: Medical Sciences*, 75(3), 545–551. <https://doi.org/10.1093/gerona/gljz189>
23. Ward, D.D. Mauschitz, M.M. Bönniger, M.M., **Merten, N.**, Finger, R.P., & Breteler, M.M.B. (2020). Association of Retinal Layer Measurements and Adult Cognitive Function: A Population-Based Study. *Neurology*, 95(9), e1144-e1152. <https://doi.org/10.1212/WNL.0000000000010146>
24. Oumohand, S.E., Ward, D.D., Boenniger, M.M., **Merten, N.**, Kirschbaum, C., & Breteler, M.M.B. (2020). Perceived stress but not hair cortisol concentration is related to adult cognitive performance. *Psychoneuroendocrinology*, 121:104810. <https://doi.org/10.1016/j.psyneuen.2020.104810>
25. **Merten, N.**, Kramme, J., Breteler, M.M.B., & Herholz, S.C. (2019). Previous Musical Experience and Cortical Thickness Relate to the Beneficial Effect of Motor Synchronization on Auditory Function. *Frontiers in Neurosciences*, 13:1042. <https://doi.org/10.3389/fnins.2019.01042>
26. **Merten, N.** \*, Ettinger, U. \*, & Kambeitz, J. (2016). Meta-analysis of the association of the SLC6A3 3'-UTR VNTR with cognition. *Neuroscience & Biobehavioral Reviews*, 60, 72–81.  
<https://doi.org/10.1016/j.neubiorev.2015.09.021> \* *equal contribution*
27. Kasparbauer, A.-M., **Merten, N.**, Aichert, D. S., Wöstmann, N., Meindl, T., Rujescu, D., & Ettinger, U. (2015). Association of COMT and SLC6A3 polymorphisms with impulsivity, response inhibition and brain function. *Cortex*, 71, 219–231. <https://doi.org/10.1016/j.cortex.2015.07.002>

## CONFERENCE PUBLICATIONS

underlines indicate Dr. Merten's supervised/mentored staff member or advisee.

★ indicates Dr. Merten as corresponding/senior author.

1. **Merten, N.**, Pinto, A. A., Paulsen, A. J., Chappell, R. J., Chen, Y., Engelman, C. D., Ferrucci, L., Hancock, L. M., Johnson, S. C., & Schubert, C. R. (2023). Midlife Hearing, Vision, Olfactory, and Motor Function Improve the Long-Term Prediction of Cognitive Decline and Onset of Cognitive Impairment. *ALZ*.  
<https://alz.confex.com/alz/2023/meetingapp.cgi/Paper/71813>
2. Planalp, E. M., Hulle, C. A. van, Bendlin, B. B., Blennow, K., Carboni, M., Carlsson, C. M., Engelman, C. D., Kollmorgen, G., Ma, Y., Okonkwo, O., Johnson, S. C., Zetterberg, H., & **Merten, N.** ★ (2023). Associations of physical activity with cerebrospinal fluid biomarkers of neurodegeneration, neuroinflammation, and Alzheimer's disease. *ALZ*.  
<https://alz.confex.com/alz/2023/meetingapp.cgi/Paper/83058>

3. **Merten, N., Paulsen, A., Chappell, R., Chen, Y., Cruickshanks, K., Engelman, C., Hancock, L., & Schubert, C.** (2022). Temporal Associations of Sensory Function and Blood-Based Alzheimer's Disease and Neurodegeneration Biomarkers. *Innovation in Aging*, 6(Supplement\_1), 151–152.  
<https://doi.org/10.1093/geroni/igac059.605>
4. **Merten, N., Pinto, A. A., Paulsen, A. J., Schubert, C. R., Chappell, R. J., Chen, Y., Hancock, L. M., Engelman, C. D., & Cruickshanks, K. J.** (2022). Associations of Sensory and Motor Functions in Midlife with Longitudinal Blood-Based Biomarker Levels of Alzheimer's Disease and Neurodegeneration. *Alzheimer's & Dementia*, 18(S6), e062423. <https://doi.org/10.1002/alz.062423>
5. **Merten, N., Walsh, M. C., van Landingham, S. W., Ryff, C.D., Schultz, A.** (2022). Mental Health Among Sensory Impaired Individuals During COVID-19 Lockdown Measures. *American Auditory Society Scientific and Technology Meeting Podium Abstracts*, [https://aas.memberclicks.net/assets/2022\\_Podiums.pdf](https://aas.memberclicks.net/assets/2022_Podiums.pdf)  
*Prior to Faculty Appointment at the University of Wisconsin*
6. **Merten, N., Schultz, A., Walsh, M. C., van Landingham, S. W., Peppard, P.E., Ryff, C.D., & Malecki, K.C.** (2021). Mental Health and Well-Being Among Individuals with a Sensory Loss During COVID-19 Lockdown Measures. *Innovation in Aging*, 5(Supplement\_1), 407. <https://doi.org/10.1093/geroni/igab046.1580>
7. **Merten, N., Pinto, A. A., Paulsen, A. J., Carlsson, C. M., Chen, Y., Schubert, C. R., & Cruickshanks, K. J.** (2021). Generational differences in cognitive function in middle-aged to older adults. *Alzheimer's & Dementia*, 17(S10), e050363. <https://doi.org/10.1002/alz.050363>
8. **Merten, N., Pinto, A. A., Dillard, L. K., Paulsen A. J., Schubert, C. R., & Cruickshanks, K. J.** (2021) Psychological Well-Being is Associated with Hearing Functions in Middle-Aged Adults. *American Auditory Society Scientific and Technology Meeting Podium Abstracts*, [https://aas.memberclicks.net/assets/2021\\_Podiums.pdf](https://aas.memberclicks.net/assets/2021_Podiums.pdf)
9. **Merten N., Paulsen A.J., Pinto A.A., Chen Y., Dillard L.K., Fischer M.E., Schubert C.R., & Cruickshanks K.J.** (2020). Macular Ganglion Cell–Inner Plexiform Layer as a Marker of Cognitive and Sensory Function in Midlife. *Innovation in Aging*. *Innovation in Aging*, 4 (Issue Supplement\_1), 259.  
<https://doi.org/10.1093/geroni/igaa057.832>
10. Coors, A., Ettinger, U., Ward, D.D., **Merten, N.**, Breteler, M.M.B. (2019). Associations of Age and Sex with Oculomotor Performance in the Rhineland Study. *Journal of Eye Movement Research* 12 (7).  
<https://web.s.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=19958692&AN=142777741&h=mKhgMn7meCFiEVTJsxeJClr3OP%2fRI50P8dLaovkAAAnkhihJb7wQr76yU1QBvZbbRgQBrgmNmT9NCOPM%2fCRz39A%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNotAuth&crlhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d19958692%26AN%3d142777741>
11. Oumohand, S.E., **Merten, N.**, Bönniger, M.M., Ward, D.D., Kirschbaum, C., & Breteler, M.M.B. (2019). Chronic perceived stress and hair cortisol differentially relate to cognitive functioning across adulthood. *Psychoneuroendocrinology* 100:S15. <https://doi.org/10.1016/j.psyneuen.2018.12.064>

12. Bönninger, M.M., **Merten, N.**, Ward, D.D., & Breteler, M.M.B. (2018). Sex differences across age in cognitive tests in the Rhineland study. *Revue d'Épidémiologie et de Santé Publique* 66:S281. <https://doi.org/10.1016/j.respe.2018.05.119>
13. De Vries, D., **Merten, N.**, Stingl, J., & Breteler, M.M.B. (2018). The effect of proton pump inhibitors on cognition and brain volume in the Rhineland study. *Revue d'Épidémiologie et de Santé Publique* 66:S427-S428. <https://doi.org/10.1016/j.respe.2018.05.526>
14. Ward, D.D., Mauschwitz, M.M. Bönninger, M.M., **Merten, N.**, Finger, R.P., & Breteler, M.M.B. (2018). Peripapillary retinal nerve fiber layer thickness and cognitive function across the adult lifespan in the Rhineland study. *Revue d'Épidémiologie et de Santé Publique* 66:S238. <https://doi.org/10.1016/j.respe.2018.05.018>

### MONOGRAPHS OR BOOKS

1. **Merten, N.** (2019). The Auditory System and Its Relation to Cognitive Function in the Process of Aging (Doctoral dissertation). Retrieved from Universitäts- und Landesbibliothek Bonn. <https://bonndoc.ulb.uni-bonn.de/xmlui/handle/20.500.11811/7714>

### CHAPTERS IN BOOKS, VIDEOS, OR OTHER APPROPRIATE MEDIA

1. Guest Article "German Kohlrabi in Mehlschwitze with Boiled Potatoes and Sausages" in The Dane County Farmers' Market Cookbook By Terese Allen (2023)

### INVITED RESEARCH PRESENTATIONS

underlines indicate Dr. Merten's supervised/mentored staff member or advisee.

★ indicates Dr. Merten as corresponding/senior author.

### LOCAL/UW

1. Invited Oral Presentation, McPherson Eye Research Institute's MERI-At-A-Glance; Title: "Associations of Sensory and Motor Functions with Blood-Based Biomarkers of Neurodegeneration and Alzheimer's Disease", 02/24/2023
2. Invited Oral Presentation, Department of Communication Sciences & Disorders Hearing and Donuts, aka Brain and Bagels Seminar, Title: "Can Midlife Hearing, Vision, Olfactory and Motor Function Improve Long-Term Prediction of Neurodegeneration and Cognitive Impairment?", 02/03/2023
3. Invited Oral Presentation, Department of Population Health Sciences Wednesday Student Seminar; Title: "From the Brain to the Senses and Back – A Journey Towards Common Causes and Modifiable Risk Factors of Brain Aging", 09/07/2022
4. Invited Oral Presentation, Department of Communication Sciences & Disorders Hearing and Donuts, aka Brain and Bagels Seminar, virtual, Title: "Current COVID-19 Threats and New Biomarkers of Alzheimer's Disease and Neurodegeneration in Population-Based Research on Sensory Loss", 03/05/2022



*Prior to Faculty Appointment at the University of Wisconsin*

5. Invited Oral Presentation, Department of Population Health Sciences Annual Meeting Lightning Talks, Title: "The Association of Psychological Well-being with Sensory and Cognitive Function and Neuronal Health in Aging Adults, 03/08/2021
6. Invited Oral Presentation, McPherson Eye Research Institute Seminar Series, virtual, Title: "Macular Ganglion Cell–Inner Plexiform Layer as a Marker of Cognitive and Sensory Function in Midlife", 02/09/2021
7. Invited Oral Presentation, Geriatrics Grand Rounds of the Department of Medicine, virtual, Title: "Cognitive Aging in Midlife - Early Biomarkers and Psychosocial Factors", 11/03/2020
8. Invited Blitz Talk, Postdoctoral Researcher Symposium, virtual, Title: "Macular Ganglion Cell-Inner Plexiform Layer as a Marker of Cognitive and Sensory Function in Midlife", 09/23/2020
9. Oral Presentation, Department of Ophthalmology and Visual Sciences George Kambara, Vision Science Symposium, Title: "MGCIPL—a Marker of Cognitive and Sensory Function in Midlife", 04/20/2020
10. Invited Oral Presentation, Department of Population Health Sciences Monday Seminar Series, virtual, Title: "Common Neurodegenerative Processes in Aging-Retinal Thickness as a Biomarker for Sensory and Cognitive Function in Middle-Aged Adults", 04/13/2020
11. Invited Blitz Talk, Postdoctoral Researcher Symposium, Title: "Associations Between Hearing Loss and Cognition over Time in Middle-Aged Adults", 09/19/2019
12. Invited Oral Presentation, Department of Population Health Sciences Graduate Research Seminar, Title: "Determinants of Central Hearing – How Peripheral Hearing and Cognitive Functions Affect Understanding of Speech in Noise", 09/12/2018
13. Invited Oral Presentation, Department of Population Health Sciences Graduate Research Seminar, Title: "Cortical Thickness and Previous Musical Experience in Relation to the Beneficial Effect of Motor Synchronization on Auditory Processing", 10/04/2017

**INTERNATIONAL AND NATIONAL**

1. Invited Oral Presentation, Johns Hopkins Cochlear Center for Hearing and Public Health Seminar Series, Baltimore, MD, Title: "Brain Aging- Common Pathways and Midlife Blood-Based Biomarkers.", 11/17/2022
2. Invited Oral Presentation, University of Minnesota Division of Epidemiology and Community Health Special Seminar, virtual, Title: "From the Brain to the Senses and Back - A Journey Towards Common Causes and Modifiable Risk Factors of Brain Aging", 06/21/2022

*Prior to Faculty Appointment at the University of Wisconsin*

3. Invited Oral Presentation, University of Mississippi Medical Center Department of Otolaryngology and Communicative Sciences Resident Conference Lecture, Jackson, MI, Title: "From the Brain to the Senses and Back—A Journey Towards Common Causes and Modifiable Risk Factors of Brain Aging", 02/26/2021
4. Invited Oral Presentation, University of Pittsburgh Department of Epidemiology Special Seminar, virtual, Title: "From the Brain to the Senses and Back - A Journey Towards Common Causes and Modifiable Risk Factors of Brain Aging", 02/02/2021



## PEER-REVIEWED PRESENTATIONS

### LOCAL/UW

underlines indicate Dr. Merten's supervised/mentored staff member or advisee.

★ indicates Dr. Merten as corresponding/senior author.

1. Poster Presentation by Creager, C., UW-Madison Institute on Aging Annual Colloquium, Title: "Midlife Hearing, Vision, Olfactory, and Motor Function Improve the Long-Term Prediction of Cognitive Decline and Onset of Cognitive Impairment", Sep 27, 2023; Authors: **Merten, N.**, Pinto, A. A., Paulsen, A. J., Chappell, R. J., Chen, Y., Engelman, C. D., Ferrucci, L., Hancock, L. M., Johnson, S. C., Creager, C. & Schubert, C. R.
2. Poster Presentation by Schubert, C.R., Alzheimer's Disease and Related Disorders Research Day, Wisconsin ADRC Research Education Component, Title: "Effect of Neurotoxin Exposure on Blood Biomarkers of Neurodegeneration and Alzheimer's Disease", April 17, 2023; Authors: Schubert, C.R., Paulsen, A.J., Pinto, A.A., Chappell, R.J., Chen, Y., Ferruci, L., Hancock, L.M., Cruickshanks, K.J., **Merten, N.** ★
3. Poster Presentation, Department of Medicine Research Day, Title: "Associations of Sensory and Motor Functions in Midlife with Longitudinal Blood-Based Biomarker Levels of Alzheimer's Disease and Neurodegeneration", October 28, 2022
4. Poster Presentation by Schubert, C.R., Department of Medicine Research Day, Title: "Effect of Neurotoxin Exposure on Blood Biomarkers of Neurodegeneration and Alzheimer's Disease", October 28, 2022; Authors: Schubert, C.R., Paulsen, A.J., Pinto, A.A., Chappell, R.J., Chen, Y., Ferruci, L., Hancock, L.M., Cruickshanks, K.J., **Merten, N.** ★

*Prior to Faculty Appointment at the University of Wisconsin*

5. Poster Presentation, Department of Population Health Sciences Welcome Day, Title: "Benefit of Musical Training for Speech Perception Later in Life", 03/09/2020
6. Poster Presentation, Global Health Institute Symposium; Title: "Auditory and cognitive assessments in the Rhineland Study", 04/04/2017
7. Poster Presentation, Department of Population Health Sciences Welcome Day, Title: "Auditory and cognitive assessments in the Rhineland Study", 04/03/2017

### INTERNATIONAL and NATIONAL

underlines indicate Dr. Merten's supervised/mentored staff member or advisee.

★ indicates Dr. Merten as corresponding/senior author.

1. Oral Presentation, Gerontological Society of America (GSA) 2023 Annual Scientific Meeting, Tampa, FL; Title: "Midlife Hearing, Vision, Olfactory and Motor Function Improve the Long-Term Prediction of Neurodegeneration and Cognitive Impairment", 11/09/2023

2. Poster Presentation, AAIC 2023, Amsterdam, Netherlands; Title: "Midlife Hearing, Vision, Olfactory, and Motor Function Improve the Long-Term Prediction of Cognitive Decline and Onset of Cognitive Impairment", 07/16/2023
3. Poster Presentation Planalp, AAIC 2023, Amsterdam, CO; Title: "Associations of physical activity with cerebrospinal fluid biomarkers of neurodegeneration, neuroinflammation, and Alzheimer's Disease", 07/29/2021 (Planalp, E., Van Hulle, C.A., Bendlin B.B., Blennow, K., Carboni, M., Carlsson, C.M., Engelman, C.D., Kollmorgen, G., Ma, Y., Okonkwo, O., Johnson, S., Zetterberg, H., & Merten, N.)
4. Oral Presentation, Society for Epidemiological Research (SER) Annual Meeting, Portland, OR; Title: "Midlife Hearing, Vision, Olfactory and Motor Function Improve the Long-Term Prediction of Neurodegeneration", 06/14/2023
5. Oral Presentation, Gerontological Society of America (GSA) 2022 Annual Scientific Meeting, Indianapolis, IN, Title: "Temporal Associations of Sensory Function and Blood-Based Alzheimer's Disease and Neurodegeneration Biomarkers", 11/03/2022
6. Oral Presentation, Alzheimer's Association International Conference (AAIC), San Diego, CA; Title: "Associations of Sensory and Motor Functions in Midlife with Longitudinal Blood-Based Biomarker Levels of Alzheimer's Disease and Neurodegeneration", 07/31/2022

*Prior to Faculty Appointment at the University of Wisconsin*

7. Poster Presentation, AAIC 2021, Denver, CO; Title: "Generational Differences in Cognitive Function in Middle-Aged to Older Adults", 07/29/2021
8. Poster Presentation, Bonn International Graduate School Clinical and Population Science Retreat, Kamen-Kaiserau, Germany; Title: "Decline in Hearing and Cognition in Aging Adults – A Project Within the Beaver Dam Offspring Study", 11/06/2017
9. Poster Presentation, U13 Sensory Impairment & Cognitive Decline Workshop by the National Institute on Aging and the American Geriatrics Society, Bethesda, MD; Title: "Association of Hearing and Cognition Across the Lifespan", 10/02/2017
10. Poster Presentation, DZNE Bonn/Tübingen Retreat, Bad Neuenahr, Germany, Title: „Decline in Hearing and Cognition in Aging Adults – A Project Within the Beaver Dam Offspring Study“, 06/26/2017
11. Poster Presentation, Bonn International Graduate School Clinical and Population Science Retreat in Koblenz, Germany; Title: "Auditory and Cognitive Assessments in the Rhineland Study" 11/2016
12. Poster Presentation, DZNE PhD Retreat in Bonn, Germany; Title: "Auditory and Cognitive Assessments in the Rhineland Study", 11/2016
13. Poster Presentation, DZNE Bonn Retreat in Nürburg, Germany; Title: "Predispositions in brain anatomy and top-down influences on auditory processing – a melody experiment within the piloting of the Rhineland Study", 11/2015
14. Oral Presentation, American Auditory Society (AAS) Annual Meeting, Scottsdale, AZ; Title: "Mental Health Among Sensory Impaired Individuals During COVID-19 Lockdown Measures", 02/26/2022
15. Oral presentation, GSA 2021 Annual Scientific Meeting, virtual, Title: "Mental Health and Well-Being Among Individuals with a Sensory Loss During COVID-19 Lockdown Measures", 11/12/2021

16. Oral Presentation, AAS Annual Meeting, Virtual; Title: "Psychological Well-Being is Associated with Hearing Functions in Middle-Aged Adults", 03/04/2021
17. Oral Presentation, GSA 2020 Annual Scientific Meeting, virtual, Title: "Macular Ganglion Cell–Inner Plexiform Layer as a Marker of Cognitive and Sensory Function in Midlife", 11/04/2020
18. Oral Presentation, AAS Annual Meeting 2020, Scottsdale, AZ; Title: "Benefit of Musical Training for Speech Perception Later in Life", 03/05/2020
19. Oral Presentation, Midwest Auditory Research Conference, Springfield, IL; Title: "Associations of Hearing Sensitivity, Central Auditory Processing, and Cognition over Time in Aging Adults", 07/11/2019
20. Oral Presentation, Hearing Across the Lifespan Conference, Como, Italy; Title: "Relation of Pure-Tone Audiometry and Cognitive Functions with Hearing in Noise Performance in the Rhineland Study", 06/07/2018
21. Oral Presentation, Bonn International Graduate School Clinical and Population Science Retreat Kamen-Kaiserau, Germany; Title: "Determinants of Central Hearing – How Peripheral Hearing and Cognitive Functions Affect Understanding of Speech in Noise, 11/12/2018

#### **RESEARCH PRESENTATION TO DISSEMINATE RESEARCH FINDINGS TO THE COMMUNITY**

1. Oral Presentation, German Center for Neurodegenerative Diseases Rhineland Study Einblicke Teilnehmerveranstaltung (Insights Event for Participants), Title: "Schwerhörigkeit: Was bestimmt unser Hören im Alter?" ("Hearing Loss: What Determines our Hearing Ability at Older Age?"), 11/30/2018

## RESEARCH SUPPORT

### CURRENT

- 09/15/2022–05/31/2027 R01 AG079289  
National Institute on Aging, National Institutes of Health  
*The Beaver Dam Offspring Study Neurocognitive Aging Study (BOSS-NCAS)-A Study on the Role of Accelerated Aging and Midlife Sensory Decline for Early Alzheimer's Disease and Dementia in Later Life.*  
Total Award: \$ 2,450,972 direct costs to **Merten (PI)**
- 09/01/2020–08/31/2024 RF1 AG066837  
(NCE)  
National Institute on Aging, National Institutes of Health  
*Multisensory, Motor, and Biomarker Changes in Aging and Preclinical Alzheimer's Disease*  
Total Award: \$1,258,501 direct costs to **Merten (PI)**
- 05/04/2023–08/31/2024 RF1 AG066837-01S1  
(NCE)  
National Institute on Aging, National Institutes of Health  
Administrative Supplement to Existing NIH Grant: *Multisensory, Motor, and Biomarker Changes in Aging and Preclinical Alzheimer's Disease*  
Total Award: \$102,712 direct costs to **Merten (PI)**
- 08/01/2023-04/30/2028 National Institute on Aging, National Institutes of Health  
*Companion dogs: sentinels for multimorbidity of human neurocognitive aging*  
Total Award: \$1,870,940 direct costs to Mowat (PI)

### MAJOR PAST AWARDS

- 11/01/2020–10/31/2022 UW-Madison, Department of Ophthalmology and Visual Sciences  
*Man's Best Friend: Does Visual/Cognitive Ability in Pet Dogs Match Their Human Owners?*  
Total Award: \$37,278 direct costs to Mowat (PI)  
Role: Co-Investigator
- 09/01/2018–03/31/2023 RF1 AG059869  
National Institute on Aging, National Institutes of Health  
*Preclinical AD Consortium*  
Total Award: \$6,184,471 direct costs to Albert (PI)  
Role: Scientist

01/15/2019–11/30/2023 R01 AG062167  
Longitudinal Investigation of Cardiorespiratory Fitness and AD Biomarkers in an  
At-Risk Cohort  
Total Award: \$1,598,438 direct costs to Okonkwo (PI)  
Role: Scientist

09/01/2014–05/31/2021 R01 AG021917  
*Familial and Birth Cohort Effects on the Aging Senses*  
Total Award: \$5,413,126 direct costs to Cruickshanks (PI)  
Role: Post-doc

02/01/2014–01/31/2020 R37 AG11099  
National Institute on Aging, National Institutes of Health  
*Epidemiology of Age-related Hearing Loss*  
Total Award: \$2,474,309 direct costs to Cruickshanks (PI)  
Role: Post-doc

## EDUCATIONAL ACTIVITIES AND PRESENTATIONS

### TEACHING EXPERIENCE

#### Classroom Teaching (graduate & undergraduate)

Years	Course Title	Credits	Students	Grade Distribution	Contact Hours	Format
2020	PHS 650-015 Epidemiology of Aging	1	4	A (2), AB (2)	100min/wk x 7 wks  Two hours (100 minutes) of classroom instruction per week and a minimum of four hours of out of class student work each week for approximately 7 weeks.	Lecture
2020	PHS 820 Graduate Research Seminar	1	5	A (5)	1h/wk x 15 wks  One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week over the spring semester.	Lecture

**Guest Lectures (graduate & undergraduate)**

Years	Course Title	Credits	Students	Contact Hours	Format
2020	Statistical Analysis of Psychological Experiments (PSYCH 610) of the Department of Psychology, UW-Madison, lecture title: "Designing an Observational Study"	3	28	1 x 75 min	Lecture
2018	Bonn International Graduate School Clinical and Population Science, lecture titles: "Mediation and Moderation" and "Interpreting Results"	2	15	2 x 45 min	Lecture

**Undergraduate Student Mentees**

Years	Mentee Name	Degree Program	Current Position
2021-2022	Talia Brach (Global Health)	Biology 152 Undergraduate Research Project and Medicine 699 Independent Studies	Masters of Public Health Candidate, UW-Madison
2021-2022	Alec Czaplicki, BS (Neurobiology)	Biology 152 Undergraduate Research Project and Medicine 699 Independent Studies	M.D. Candidate, Creighton University School of Medicine

**Other Mentees**

Years	Mentee Name	Degree Program	Current Position
2023-date	Poorang Nori	Program Manager in Merten Lab	Program Manager in Merten Lab
2023-date	Kevin Komarek	Data Scientist in Merten Lab	Data Scientist in Merten Lab
2023-date	Carol Creager, MS	Researcher in Merten Lab	Researcher in Merten Lab
2022-date	Beth Planalp, PhD	Scientist in Okonkwo Lab, UW-Madison	Scientist in Johnson Lab, UW-Madison



2021- date	Carla Schubert, MS	Researcher in Merten Lab	Researcher in Merten Lab
2021- date	Adam Paulsen, MS	Researcher in Merten Lab	Researcher at the Survey of the Health of Wisconsin (SHOW), UW-Madison
2021- 2022	Alex Pinto, MS	Statistician in Merten Lab	Statistician in Biostatistics and Medical Informatics, UW-Madison
2021- 2022	Ben Rackovan, BS	Associate Research Specialist in Okonkwo Lab, UW-Madison	M.D. Candidate, Medical School at the Medical College of Wisconsin

## **SERVICE ACTIVITIES**

### **DEPARTMENTAL**

1. PHS Admissions Committee for Fall 2024, 2023–2024
2. PHS Associate Director for Research Administration Search Committee, 2023
3. PHS Admissions Committee for Fall 2023, 2022–2023
4. PHS Chair of Postdoc Graduate Student Mentoring Committee, 2019–2021

### **UW-MADISON**

1. Women in Science and Engineering (WISE) Fall 2023 Seminar Faculty Dinner Mentor, 10/17/2023
2. UW-Madison Office of Postdoctoral Studies Panelist in Future Faculty Bootcamp, 06/06/2023
3. UW-Madison Feedback Session with the Provost “Reflecting on the First Year, 05/11/2023
4. UW-Madison Badger Talks Speaker, 2022–date

### **NATIONAL**

1. Mentor at GSA 2023 Mentoring Consultancies; 11/10/2023
2. GSA TT-START (Tenure-Track? Strategizing Time and Aspirations-a Roadmap for Tenure) Task Force Lead [Mentoring Group for Early Career Faculty], 2023–date
3. Review Editor  
[Editorial Board of Aging and Life-course Epidemiology (specialty section of Frontiers in Epidemiology)],  
2022–date
4. Expert Panel Member  
[Update the National Strategic Research Plan (2022-2027) of the National Institute on Deafness and Other  
Communication Disorders], 2021–2022
5. GSA Task Force Co-Lead  
[Emerging Scholar and Professional Organization Dissertation Writing Group], 2021–2022
6. Conference Abstract Reviewer  
[GSA Annual Meeting], 2020

## **INTERNATIONAL**

1. Co-chair and Co-organizer of ‘Study Design - It's All About the People’ Oral Session at SER Annual Meeting 2023, 06/15/2023
2. Journal Reviewer  
[Alzheimer's & Dementia; Alzheimer's & Dementia: Translational Research & Clinical Interventions; Brain and Behavior; Ear and Hearing; European Journal of Neurology; Journal of Alzheimer's Disease; Journal of the American Geriatrics Society; Journal of Gerontology: Medical Sciences; Journal of Speech, Language, and Hearing Research], 2019–date
3. PhD Student Representative  
[Member of the BIGS CPS Teaching Committee; Organizer of BIGS CPS social events and the annual 2-day student retreat], 2017–2019

## **COMMUNITY OUTREACH/SERVICE**

1. UW-Madison Badger Talks Speaker, 2022–date
2. Dementia Matters Podcast Episode “Studies Look at Generational Differences and Associations between Cognition, Sensory Changes and Blood Biomarkers” with Nathaniel Chin, 2023/04/20 at <https://www.adrc.wisc.edu/dementia-matters> or on Spotify: <https://open.spotify.com/show/16GEjnxUBzjukRaOsfCI76>
3. Editors Pick in Journal of Alzheimer's Disease <https://www.j-alz.com/content/associations-midlife-lifestyle-and-health-factors-long-term-changes-%C2%A0blood-based-biomarkers>
4. Press release of Journal of Alzheimer's Disease publication <https://www.med.wisc.edu/news-and-events/2023/august/midlife-factors-in-neurodegeneration-alzheimers/>

## **PROGRAMMING**

1. Matlab
2. R
3. SPSS
4. Filemaker

## **SPOKEN LANGUAGES**

1. German (first language)
2. English (CEFR level: usage and comprehension C2)
3. Latin (proficiency certificate)