Adriana Seelye, PhD.

- **Researcher**, GRECC, Minneapolis VA Health Care System, Minneapolis, MN
- **Assistant Professor,** Psychiatry, University of Minnesota, Minneapolis, MN
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Research Interests:
The Minnesota Aging and Technology Lab is housed at the Minneapolis VA GRECC and focuses on advancing methods for early detection and monitoring of cognitive and daily functioning declines in normal aging, MCI, and AD/ADRD through passive sensor-based activity monitoring technologies and data analytics. Our lab is funded through NIH/NIA, VA Research & Development, and the University of Minnesota. We have examined the underlying cognitive declines that contribute to early functional declines in older adults and have shown that subtle changes in real-world instrumental activities of daily living, such as older adults' medication habits and driving, can be measured remotely through passive sensing and are early signals of mild cognitive impairment. We have recently shown that in-home activity monitoring is feasible and well-accepted in aging Veterans. In addition, we have shown the importance of age on driving self-regulation versus dangerous driving in older adult drivers. Current investigations include exploring relationships between sleep, cognition, and medication adherence in aging Veterans, and exploring relationships between technology attitudes and readiness with cognition and use of study technologies in aging Veterans. The overall goal of our research is to use innovative in-home and mobile monitoring technologies to detect and monitor progression of cognitive decline in older adults as early as possible, in order to facilitate timely and targeted intervention to prevent avoidable health deterioration or loss of independence. Our research also explores older adults' attitudes, beliefs, and bioethical issues around technology-based assessments. Our lab is also working to develop technology-based interventions for caregivers of adults with cognitive impairment. The methods we use include remote passive sensor-based activity monitoring, weekly and monthly web-based surveys, and clinical assessments that include structured clinical interviews, validated questionnaires of mood, physical health, and daily functioning, and a comprehensive battery of validated neuropsychological tests. As an interdisciplinary research team, we collaborate with engineers and data scientists, biostatisticians, clinicians in psychology and rehabilitation medicine, students and trainees, and others at the Minneapolis VA, the University of Minnesota, and Oregon Health & Science University.

Recent Publications:

Seelye, A., Leese, M., Bouranis, N., Mattek, N., Sharma, N., Beattie, Z., Riley, T., Lee, J, Cosgrove, K., Fleming, N., Dorociak, K., Klinger, J., Ferguson, J., Lamberty, G., & Kaye, J. (In Press). In-Home Sensor Monitoring to Detect Mild Cognitive Impairment in Aging Military Veterans: Preliminary data on Methods and Feasibility. JMIR Formative Research.

Seelye, A., Thuras, P., Doane, B., Clason, C., VanVoorst, W., & Urošević, S. Steeper aging-related declines in cognitive control processes among adults with bipolar disorders. Journal of Affective Disorders. 2019; 246: 595-602. doi: 10.1016/j.jad.2018.12.076. PMID: 30605878

Kaye, J., Reynolds, C., Bowman, M., Sharma, N., Riley, T., Golonka, O., Lee, J., Quinn, C., Beattie, Z., Austin, J., **Seelye, A.**, Wild, K., & Mattek, N. Methodology for Establishing a Community-Wide Life Laboratory for Capturing Unobtrusive and Continuous Remote Activity and Health Data. J. Vis. Exp. 2018; 137, e56942, doi 10.3791/56942

Seelye, A., Mattek, N., Sharma, N., Riley, T., Austin, J., Wild, K., Dodge, H., Lore, E., & Kaye, J. Weekly observations of online survey metadata obtained through home computer use allow for detection of changes in everyday cognition before transition to mild cognitive impairment. Alzheimer's & Dementia. 2018; 59(4):1427-1437.

Khan, A., Imtiaz, D., & **Seelye, A**. A Mobile Multimedia Reminiscence Therapy Application to Reduce Behavioral and Psychological Symptoms in Persons with Alzheimer's. Journal of Healthcare Engineering.2018; PMID: 29755713

Seelye, A., Mattek, N., Sharma, N., Witter, P., Brenner, A., Wild, K., Dodge, H., & Kaye, J. Passive assessment of routine driving with unobtrusive sensors: A new approach for identifying and monitoring functional level in normal aging and mild cognitive impairment. Journal of Alzheimer's Disease. 2017; 59, 1427–1437.

Seelye, A., Mattek, N., Howieson, D., Austin, D., Wild, K., Dodge, H., & Kaye, J. Embedded online questionnaire measures are sensitive to identifying mild cognitive impairment. Alzheimer's Disease & Associated Disorders. 2016; 30(2):152-9. doi: 10.1097/ WAD.0000000000000100.

(For a comprehensive list of recent publications, refer to PubMed, a service provided by the National Library of Medicine.)

Education:

- **BA Psychology –** San Diego State University, San Diego, CA 2005
- **MS Psychology –** Pacific University, Forest Grove, OR 2007
- **PhD Clinical Psychology –** Washington State University, Pullman, WA 2013
- **Predoctoral Internship-** University of California, San Diego and VA San Diego Health Care System, San Diego, CA 2012-2013
- **Postdoctoral Fellowship –** NIA T32 Neuroscience of Aging, Oregon Health & Science University, Portland, OR 2013-2015

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