

ELENA K. FESTA

Department of Cognitive & Psychological Sciences
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EDUCATION

- 1998 Ph.D, Experimental Psychology
 “Integration mechanism for visual motion processing” (Advisor: Dr. Leslie Welch)
 Department of Psychology, Brown University, Providence, RI
- 1994 Sc.M, Experimental Psychology
 “Perceptual structure and attention: Their effects on performance in divided and selective attention tasks” (Advisor: Dr. Bryan Shepp)
 Department of Psychology, Brown University, Providence, RI
- 1992 A.B, Psychology with Psychobiology Concentration
 Department of Psychology, College of the Holy Cross, Worcester, MA

ACADEMIC APPOINTMENTS

- 2025 – Present Teaching Professor
 Department of Cognitive & Psychological Sciences, Brown University, Providence, RI
- 2019 – 2025 Senior Lecturer
 Department of Cognitive & Psychological Sciences, Brown University, Providence, RI
- 2013 - 2019 Lecturer
 Department of Cognitive, Linguistic & Psychological Sciences,
 Brown University, Providence, RI
- 2011 - 2013 Dean of Pembroke College Visiting Assistant Professor
 Department of Cognitive, Linguistic & Psychological Sciences,
 Brown University, Providence, RI
- 2005 - 2011 Assistant Professor (Research)
 Department of Psychology, Brown University, Providence, RI
- 2000 - 2005 Postdoctoral Fellow in Cognitive Neuropsychology
 Department of Psychology, Brown University, Providence, RI
- 1998 - 2000 Visiting Assistant Professor (Research)
 Department of Psychology, Brown University, Providence, RI

RESEARCH INTERESTS

- Cognitive neuroscience of perception, attention, memory, and decision-making under uncertainty
- Behavioral and neural mechanisms of sensory and multisensory binding, including interactions between frontal control networks, motivation, and LC–NE and cholinergic systems
- Multimodal methods (EEG, eye tracking, pupillometry, fNIRS) to measure attention, arousal, and memory
- Behavioral, physiological, and neuroimaging markers for early detection of cognitive decline and functional impairment in aging and Alzheimer’s disease, including neuroergonomic applications to situation awareness and driving
- Longitudinal effects of early life adversity, education, and cognitive engagement on aging trajectories and resilience, with a translational focus on risk and intervention targets

HONORS AND FELLOWSHIPS

2022	Karen T. Romer Award for Excellence in Advising Brown University, Providence, RI
2000 - 2003	National Research Service Award Postdoctoral Research Fellowship National Institutes of Health/National Institute of Aging
1996 - 1997	Dissertation Research Fellowship Award Brown University, Providence, RI
1996	Sigma Xi, Scientific Research Society Brown University Chapter
1996	National Eye Institute Travel Fellowship Grant Association for Research in Vision and Ophthalmology
1994	Conference Travel Award for CVS Symposium University of Rochester
1991 - 1992	Psi Chi National Honor Society College of the Holy Cross, Worcester, MA

PROFESSIONAL AFFILIATIONS

Cognitive Neuroscience Society
International Neuropsychological Society
International Society to Advance Alzheimer Research and Treatment
Vision Sciences Society

RESEARCH SUPPORT

<i>Developmental Adversity, Risk, and Resilience for Alzheimer's Disease: A 65 Year Prospective Cohort Study</i> National Aging Institute (Co-Investigator)	\$42,916,933 submitted
<i>Neural Mechanisms of Resilience to Age-Related Cognitive Decline: A 65-Year Prospective Cohort Study</i> Brown University Zimmerman Innovation Award (Co-Principal Investigator)	\$100,000 4/01/26 – 3/31/27
<i>Mechanisms of Risk and Resilience to Age-Related Cognitive Decline: A 60-Year Prospective Prenatal Cohort</i> National Aging Institute (1R01 AG069265-01) (Co-Investigator)	\$5,389,550 09/15/20 – 04/30/26
<i>Novel Cognitive Markers of Early Alzheimer's Disease</i> National Aging Institute (1R01 AG064002-01A1) (Principal Investigator-subcontract and Co-Investigator)	\$260,934 09/01/20 – 04/30/26
<i>Monitoring, Extracting, and Decoding Indicators of Cognitive Workload (MEDIC II-E)</i> US Army Medical Research Acquisition Activity (W81XWH20C0058) (Principal Investigator-subcontract)	\$128,680 08/10/20 – 02/09/23

<i>Comprehensive Frameworks of Perceptual Learning</i> National Eye Institute (3R01EY027841-02S1) (Consultant)	\$394,300 06/01/19 – 05/31/22
<i>Mechanisms of Motivation and Cognitive Control in Healthy Older Adults</i> Scientific Research Network on Decision Neuroscience and Aging (Co-Investigator)	\$48,413 06/01/19 – 05/31/20
<i>Combined EEG and Pupillometry Measures of Language Processing as Markers for Early Detection of Alzheimer's Disease</i> Brown University Research Seed Funding Award (Co-Investigator)	\$40,400 02/09/18 – 06/30/20
<i>Cognitive Assessment and Prediction to Promote Individualized Capability Augmentation and Reduce Decrement</i> NASA Small Business and Research Funding (SBIR-NNX16CJ08C) (Principal Investigator-subcontract)	\$59,439 06/08/16 – 12/08/17
<i>Naturalistic Assessment of the Driving Ability of Cognitively Impaired Elders</i> National Institute of Aging (2R01-AG16335-06A1) (Co-Investigator)	\$1,506,839 05/15/07 – 04/30/13
<i>Efficacy of qEEG Neurocognitive Training in Early-Stage Alzheimer's Disease</i> Alzheimer's Association (IIRG-07-59553) (Principal Investigator)	\$239,362 09/01/07 – 06/30/11
<i>Quantitative EEG and Neurofeedback in Patients with Alzheimer's Disease</i> Brown University Brain Science Program's Pilot Research Award (Principal Investigator)	\$5,000 04/01/06 – 03/31/07
<i>Using Physiological Measurements & Artificial Neural Networks to Monitor and Predict Cognitive States</i> Brown University Research Seed Funding Award (Research Associate)	\$81,620 04/01/05 – 03/31/07
<i>Multisensory Integration in Alzheimer's Disease</i> Collaboration for Translational Brain Research, Brown University (Co-Investigator)	\$19,209 11/01/03 – 10/31/04
<i>Behavioral and Electrophysiological Investigation of Semantic Memory in Alzheimer's Disease</i> Alzheimer's Association (IIRG-03-6198) (Research Associate)	\$182,160 10/01/03 – 09/30/07
<i>A Longitudinal Study of Hazardous Drivers with Dementia</i> National Institute of Aging (R01-AG16335) (Research Associate)	\$1,200,000 09/15/01 – 04/30/07
<i>Feature Integration and Attention in Alzheimer's Disease</i> National Research Service Award (F32-AG05843) (Postdoctoral Fellow)	\$113,160 06/01/00 – 05/31/03
<i>Arousal, Attention and Priming in Alzheimer's Disease</i> National Institute of Aging (R01-AG15375) (Research Associate)	\$298,916 4/01/99 – 3/31/04

PUBLICATIONS AND SUBMITTED MANUSCRIPTS (‡ denotes trainee)

- Festa EK**, Ott BR, Heindel WC. Attentive and preattentive sensory binding in aging and Alzheimer's Disease: Neuropsychological evidence for a two-stage model of feature integration, *in revision*.
- Heindel WC, Papandonatos GD, †Blujus JK, **Festa EK**, Rogers ML, Buka SL. Childhood cognitive ability and subsequent education both contribute to later-life cognition, *in revision*.
- Kavanaugh BC, Vigne MM, Legere C, Borden Z, Lynott E, Cheong D, Warren A, Acuff WL, Tirrell E, **Festa EK**, Jones RN, Spirito A, Carpenter LL. Intermittent theta burst stimulation modulates working memory-related theta-gamma coupling in adolescents with ADHD, *Brain Stimulation*, *submitted*.
- †Blujus JK, **Festa EK**, †Cesarini E, †Sant SM, Korthauer LE, Rogers ML, Donatelli J.L., Buka SL, Heindel WC. The impact of childhood reading difficulty on adult phonemic fluency: A 35-year longitudinal study, *Neuropsychology*, *submitted*.
- †Ip J, Heindel WC, Ott BR, **Festa EK**. Healthy aging and mild cognitive impairment reflect distinct theta and alpha spectral dynamics during semantic processing, *under review*.
- Festa EK**, Heindel WC, Marangi CA, Escobedo B, Galasko DR, Salmon DP, Zou J, Jacobs DM. (2026). Attenuated pupillary response during visual search in preclinical Alzheimer's disease, *Alzheimer's and Dementia*, 22, e71363. <https://doi.org/10.1002/alz.71363>
- Festa EK**, †Perelman AB, Winder AT, Bracken BK, Endsley MR. (2026). Physiological measures of situation awareness in emergency care, *Journal of Cognitive Engineering and Decision Making*, *in press*, <https://doi.org/10.1177/15553434261426214>.
- Kavanaugh BC, Vigne MM, Gamble I, Legere C, DePamphilis G, Acuff WL, Tirrell E, Vaughan N, Thorpe R, **Festa EK**, Spirito A, Jones SR, Carpenter LL. (2025). Dysfunctional oscillatory bursting patterns linked to working memory in adolescents with attention deficit hyperactivity disorder, *Cognitive, Affective, & Behavioral Neuroscience*, <https://doi.org/10.3758/s13415-025-01361-6>.
- Festa EK**, †Kim IY, Winder AT, Bracken BK, Desrochers PC, Endsley MR. (2025). Physiological measurement of situation awareness: A study of the validity of EEG and fNIRS during performance and automation monitoring in a complex task. *Ergonomics*, 1–19, <https://doi.org/10.1080/00140139.2025.2553130>.
- †Blujus JK, Papandonatos GD, Buka SL, Rogers ML, Donatelli J, **Festa EK**, Heindel WC. (2025). The impact of early childhood adversity on adult crystallized and fluid intelligence: The mediating roles of childhood cognitive ability and educational attainment, *Social Science & Medicine*, 118441, <https://doi.org/10.1016/j.socscimed.2025>.
- †Blujus JK, Cole MW, **Festa EK**, Buka SL, Salloway SP, Heindel WC, Oh H, and the Alzheimer's Disease Neuroimaging Initiative. (2025). Functional redundancy of the posterior hippocampi is selectively disrupted in non-demented older adults with β -amyloid deposition, *NeuroImage: Reports*, 5(2), 100255, <https://doi.org/10.1016/j.ynirp.2025.100255>.
- Festa EK**, Bracken BK, Desrochers PC, Winder AT, †Strong PK, Endsley MR. (2024). EEG and fNIRS are associated with situation awareness (hazard) prediction during a driving task, *Ergonomics*, 67(12), 1993–2008, <https://doi.org/10.1080/00140139.2024.2367163>.
- Kavanaugh B, Parade S, Seifer R, McLaughlin N, Tirrell E, **Festa EK**, Oberman L, Novick A, Carpenter LL, Tyrka AR. (2024). Childhood stress, gender, and cognitive control: Midline theta power, *Journal of Psychiatric Research*, 169, 298–306, <https://doi.org/10.1016/j.jpsychires.2023.11.046>.
- Korthauer LE, **Festa EK**, Gemelli Z, He M, Heindel WC. (2024). Effects of aging on externally-cued and internally-driven uncertainty representations, *Neuropsychology*, 38(3), 249–258, <https://doi.org/10.1037/neu0000936>.
- †Siefert EM, †He M, **Festa EK**, Heindel WC. (2024). Pupil size tracks cue-trace interactions during episodic memory retrieval, *Psychophysiology*, 61, e14409, <https://doi.org/10.1111/psyp.14409>.

- [†]Rmus M, [†]He M, Baribault B, Walsh EG, **Festa EK**, Collins AGE, Nassar M. (2023). Age-related decline in prefrontal glutamate are associated with increased working memory decay that gives the appearance of learning deficits, *eLife*, 12:e85243. <https://doi.org/10.7554/eLife.85243>.
- Wang T, Martinez M, **Festa EK**, Heindel WC, Song J-H. (2022). Age-related enhancement in visuomotor learning by a dual-task, *Scientific Reports*, 12, 5679. <https://doi.org/10.1038/s41598-022-09553-7>.
- Matthews N, Welch L, **Festa EK**, Bruno AA. (2021). Double dissociation in radial and rotational motion sensitivity, *PLOS ONE*, e0246094, <https://doi.org/10.1371/journal.pone.0246094>.
- [†]Korthauer LE, Heindel WC, [†]Lai LY, Tremont G, Ott BR, **Festa EK**. (2020). Impaired integration of object feature knowledge in amnesic mild cognitive impairment, *Neuropsychology*, 34, 699-712, <https://doi.org/10.1037/neu0000670>.
- [†]Lai LY, Frömer R, **Festa EK**, Heindel WC. (2020). Age-related changes in the neural dynamics of bottom-up and top-down processing during visual object recognition: An electrophysiological investigation. *Neurobiology of Aging*, 94, 38-49, <https://doi.org/10.1016/j.neurobiolaging.2020.05.010>.
- [†]He M, Heindel WC, Nassar MR, [†]Siefert EM, **Festa EK**. (2020). Age-related changes in the functional integrity of the phasic alerting system: A pupillometric investigation, *Neurobiology of Aging*, 91, 136-147, <https://doi.org/10.1016/j.neurobiolaging.2020.02.025>.
- Matthews N, Welch L, **Festa EK**, Bruno AA, Schafer K. (2020) Global depth perception alters local timing sensitivity. *PLOS ONE* 15(1): e0228080, <https://doi.org/10.1371/journal.pone.0228080>.
- [†]Lynn, A, **Festa EK**, Heindel, WC, & Amso, D. (2020). What underlies visual selective attention development? Evidence that visual selective attention performance depends on age-related improvements in visual feature binding, *Journal of Experimental Child Psychology*, 191, <https://doi.org/10.1016/j.jecp.2019.104732>.
- [†]Venkatesan, UM, Margolis, SA, Tremont, G, **Festa EK**, Heindel, WC. (2020). Forward to the past: Revisiting the role of immediate recognition in the assessment of episodic memory, *Journal of Experimental and Clinical Neuropsychology*, 42(2), 160-170, <https://doi.org/10.1080/13803395.2019.1697210>.
- [†]Karpouzian-Rogers, T, Heindel, WC, Ott, BR, Tremont, G, **Festa EK** (2020). Phasic alerting enhances spatial orienting in healthy aging but not in mild cognitive impairment, *Neuropsychology*, 34(2), 144-154, <https://doi.org/10.1037/neu0000593>.
- Margolis, SA, **Festa EK**, Papandonatos, GD, [†]Korthauer, LE, [†]Gonsalves, MA, Oberman, LM, Heindel, WC, Ott, BR. (2019). Letter to the Editors: A Pilot Study of Repetitive Transcranial Magnetic Stimulation in Primary Progressive Aphasia, *Brain Stimulation*, 12, 1340-1342, <https://doi.org/10.1016/j.brs.2019.06.001>.
- [†]Korthauer LE, Salmon DP, **Festa EK**, Galasko D, Heindel WC. (2019). Alzheimer's disease and the processing of uncertainty during choice task performance: Executive dysfunction within the Hick/Hyman law, *Journal of Experimental and Clinical Neuropsychology*, 41(4), 380-389, <https://doi.org/10.1080/13803395.2018.1564813>.
- Matthews N, Welch L, **Festa E**. (2018) Superior visual timing sensitivity in auditory but not visual world class drum corps experts, *eNeuro*, Nov-Dec 5(6), <https://doi.org/10.1523/ENEURO.0241-18.2018>.
- Davis JD, Wang S, **Festa EK**, Luo G, Moharrer M, Bernier J, Ott BR. (2018). Detection of risky driving behaviors in the naturalistic environment in healthy older adults and mild Alzheimer's disease, *Geriatrics*, 3(2), 13, <https://doi.org/10.3390/geriatrics3020013>.
- Santos CY, Johnson LN, Sinoff SE, **Festa EK**, Heindel WC, Snyder PJ. (2018). Early change in retinal structural anatomy during the preclinical stage of Alzheimer's disease, *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*, 10, 196-209, <https://doi.org/10.1016/j.dadm.2018.01.003>.
- [†]Venkatesan UM, **Festa EK**, Ott BR, Heindel WC. (2018). Differential contributions of selective attention and sensory integration to driving performance in healthy aging and Alzheimer's disease, *Journal of the International Neuropsychological Society*, 24(5), 486-497, <https://doi.org/10.1017/S1355617717001291>.
- Festa EK**, [†]Katz AP, Ott BR, Tremont G, Heindel WC. (2017). Dissociable effects of aging and mild cognitive impairment on bottom-up audiovisual integration, *Journal of Alzheimer's Disease*, 59, 155-167, doi 10.3233/JAD-161062.

- Landy KM, Salmon DP, Galasko D, Filoteo JV, **Festa EK**, Heindel WC, Hansen LA, Hamilton JM. (2015). Motion discrimination in dementia with Lewy bodies and Alzheimer's disease, *Neurology*, 85, 1376-1382, <https://doi.org/10.1212/WNL.0000000000002028>.
- [†]Kane AE, **Festa EK**, Salmon DP, Heindel WC. (2015). Repetition priming and cortical arousal in healthy aging and Alzheimer's disease, *Neuropsychologia*, 70, 145-155, <https://doi.org/10.1016/j.neuropsychologia.2015.02.024>.
- Ott BR, Davis JD, Papandonatos GD, Hewitt S, **Festa EK**, Heindel WC, Snellgrove CA, Carr DB. (2013). Assessment of Driving-Related Skills Prediction of Unsafe Driving in Older Adults in the Office Setting, *Journal of the American Geriatrics Society*, 61, 1164-1169, <https://doi.org/10.1111/jgs.12306>.
- Matthews N, Welch L, **Festa E**, Clement A. (2013). Remapping time across space, *Journal of Vision*, 13(8):2, 1-15, <https://doi.org/10.1167/13.8.2>.
- Heindel WC, **Festa EK**, Ott BR, Landy K, Salmon DP. (2013). Prototype learning and dissociable categorization systems in Alzheimer's disease, *Neuropsychologia*, 51, 1699-1708, <https://doi.org/10.1016/j.neuropsychologia.2013.06.001>.
- Festa EK**, Ott BR, Manning K, Davis JD, Heindel WC. (2013). The effect of cognitive status on self-regulatory driving behavior in older adults: An assessment of naturalistic driving using in-car video recordings, *Journal of Geriatric Psychiatry and Neurology*, 26(1), 10-18, <https://doi.org/10.1177/0891988712473801>.
- Davis JD, Papandonatos GD, Miller LA, Hewitt S, **Festa EK**, Heindel WC, Ott BR. (2012). Road test and naturalistic driving performance in healthy and cognitively impaired older adults: Does environment matter? *Journal of the American Geriatrics Society*, 60, 2056-2062, <https://doi.org/10.1111/j.1532-5415.2012.04206.x>.
- Festa EK**, Heindel WC, Ott BR. (2010). Dual-task conditions modulate the efficiency of selective attention mechanisms in Alzheimer's disease, *Neuropsychologia*, 48, 3252-3261, <https://doi.org/10.1016/j.neuropsychologia.2010.07.003>.
- Daiello LA, Ott BR, **Festa EK**, Friedman M, Miller LA, Heindel WC. (2010). Effects of cholinesterase inhibitors on visual attention in drivers with Alzheimer's disease, *Journal of Clinical Psychopharmacology*, 30, 245-251, <https://doi.org/10.1097/JCP.0b013e3181da5406>.
- Ott BR, Heindel WC, Papandonatos GD, **Festa EK**, Davis JD, Daiello LA, Morris JC. (2008). A longitudinal study of drivers with dementia, *Neurology*, 70, 1171-1178, <https://doi.org/10.1212/01.wnl.0000294469.27156.30>.
- Ott BR, **Festa EK**, Amick MM, Grace J, Davis JD, Heindel WC. (2008). Computerized maze navigation and on-road performance by drivers with dementia, *Journal of Geriatric Psychiatry and Neurology*, 21(1), 18-25, <https://doi.org/10.1177/0891988707311031>.
- Wu L, Neskovic P, Reyes E, **Festa E**, Heindel W. (2007). Classifying n-back EEG data using entropy and mutual information features, *European Symposium of Artificial Neural Networks (ESANN) Proceedings*, 61-66.
- Festa EK**, Ott BR, Heindel WC. (2006). Considering phasic alerting in Alzheimer's disease: Comment on Tales et al. (2006), *Neuropsychology*, 20(6), 757-760, <https://doi.org/10.1037/0894-4105.20.6.757>.
- Gitten JC, [†]Winer J, **Festa EK**, & Heindel WC. (2006). Conditional associative learning of spatial and object information in children with attention-deficit/hyperactivity disorder, *Child Neuropsychology*, 12, 39-56, <https://doi.org/10.1080/09297040500205579>.
- Festa EK**, [†]Insler RZ, Salmon DP, Paxton J, Hamilton JM, Heindel WC. (2005). Neocortical disconnectivity disrupts sensory integration in Alzheimer's disease, *Neuropsychology*, 19(6), 728-738, <https://doi.org/10.1037/0894-4105.19.6.728>.
- Grace J, Amick MM, D'Abreu AD, **Festa EK**, Heindel WC, Ott BR. (2005). Neuropsychological deficits associated with driving performance in patients with Parkinson's disease and Alzheimer's disease, *Journal of the International Neuropsychological Society*, 11, 766-775, <https://doi.org/10.1017/S1355617705050848>.
- Festa-Martino E**, Ott BR, Heindel WC. (2004). Interactions between phasic alerting and exogenous orienting: Effects of normal aging and Alzheimer's disease, *Neuropsychology*, 18(2), 258-268, <https://doi.org/10.1037/0894-4105.18.2.258>.

Festa-Martino E, Welch L. (2001). Motion capture depends on signal strength, *Perception*, 30(4), 489-510, <https://doi.org/10.1068/p3177>.

Festa EK, Welch L. (1997). Recruitment mechanisms in speed and fine-direction discrimination tasks. *Vision Research*, 37, 3129-3143, [https://doi.org/10.1016/s0042-6989\(97\)00118-1](https://doi.org/10.1016/s0042-6989(97)00118-1).

MANUSCRIPTS IN PREPARATION (‡ denotes trainee)

He M, Korthauer LE, Gemelli Z, Ott BR, Heindel WC, **Festa EK**. Phasic noradrenergic compensation in healthy aging and its breakdown in Mild Cognitive Impairment, *in preparation*.

Festa EK, Heindel WC, Marangi CA, Zou J, Galasko DR, Salmon DP, Jacobs DM,. Visual sensory binding: A novel behavioral marker of preclinical Alzheimer's disease, *in preparation*.

Jacobs DM, **Festa EK**, Marangi CA, Galasko DR, Salmon DP, Heindel WC. Efficiency of visual sensory binding is associated with the synaptic protein neurogranin independently of amyloid- β in cognitively unimpaired older adults, *in preparation*.

‡Blujus JK, Jacobs HL, **Festa EK**, Korthauer LE, Oh H, ‡DeLong SM, Rogers ML, Papandonatos GD, Oh H, Buka SP, Heindel WC. Cognitive change over 25 years is predictive of in vivo locus coeruleus integrity at age 60, *in preparation*.

Korthauer LE, Heindel WC, ‡Blujus JK, **Festa EK**, Rogers ML, Papandonatos GD, Buka SP. Early life factors contribute to associations between educational attainment and cognitive performance in late middle age.

Festa EK, Korthauer LE, ‡Hu Y-F, ‡Blujus JK, Rogers ML, Papandonatos GD, Buka SP, Heindel WC. Differential associations of subjective memory concerns and cognitive engagement with current cognitive performance and 25-year cognitive decline, *in preparation*.

‡Ip J, Heindel WC, **Festa EK**. Neural signatures of across- and within-stream feature binding in visual search, *in preparation*.

‡Jian W, **Festa EK**, ‡He M, ‡Siefert EM, ‡Hoang M, Heindel WC. What drives the pupillary old/new effect? Recollection, familiarity, and memory strength, *in preparation*.

Ruiz K, Escobedo B, **Festa EK**, Zou J, Gollan TH, Salmon DP, Galasko DR, Heindel WC, Jacobs DM. Evaluating the Visual Short Term Memory Binding Test as a measure of sporadic preclinical Alzheimer's disease, *in preparation*.

Heindel WC, **Festa EK**, Santos CY, ‡Venkatesan UM, Badre D, Snyder PJ. Brain β -Amyloid accumulation is associated with deficient controlled memory retrieval mechanisms in cognitively normal elderly, *in preparation*.

‡Sant SM, Heindel WC, ‡Cesarini E, Salmon DP, **Festa EK**. Perceptual priming is associated with bottom-up cortical arousal in young adults but top-down spatial attention in older adults, *in preparation*.

‡Cesarini E, ‡Sant SM, Heindel WC., **Festa EK** Relation of neuropsychological measures of executive control to semantic processing in healthy aging, *in preparation*.

Nitschke S, Shaff N, Wertz C, Stone D, Vakhtin A, Mayer A, **Festa EK**, Heindel WC, Salmon DP, Suarez Cedeno G, Deligtisch A, Richardson SP, Ryman S. Compensatory functional activation during motion discrimination in Parkinson's disease, *in preparation*.

Heindel WC, **Festa EK**, Landy KM, Salmon DP, Filoteo JV, Galasko D, Hamilton JM. Impaired motion segmentation processing in Parkinson's disease, *in preparation*.

‡Amichetti N, ‡Jeong CY, Frömer R, **Festa EK**, Heindel WC. Assessment of changes in language processing in older adults at-risk for Alzheimer's disease using EEG and pupillometry, *in preparation*.

Festa EK, Heindel WC. Phasic alerting interacts with exogenous but not endogenous attentional orienting: Evidence for a shared sensory enhancement mechanism, *in preparation*.

‡He M, Heindel WC, **Festa EK** A modified attentional network using the Simon task: A new tool and method for assessing the attentional networks and their interactions, *in preparation*.

CONFERENCE PAPER PRESENTATIONS/POSTERS († denotes trainee)

- †Jian W, **Festa EK**, Heindel WC. Differential impact of incidental and intentional encoding on pupillary response during recognition memory. Vision Science Society, St. Pete Beach, FL, May 2026.
- Festa EK**, Korthauer LE, Hu Y-F, †Blujus JK, Rogers ML, Papandonatos GD, Buka SP, Heindel WC. Differential associations of subjective memory concerns and cognitive engagement with current cognitive performance and 25-year cognitive decline. International Neuropsychological Society, Philadelphia, PA, February 4-7, 2026.
- †Blujus JK, Jacobs HL, **Festa EK**, Korthauer LE, Oh H, †DeLong SM, Rogers ML, Papandonatos GD, Buka SP, Heindel WC. Cognitive change over 25 years in individuals at high risk for pathological aging is predictive of in vivo locus coeruleus integrity at age 60. International Neuropsychological Society, Philadelphia, PA, February 4-7, 2026.
- †DeLong SM, †Blujus JK, **Festa EK**, Korthauer LE, Oh H, Rogers ML, Papandonatos GD, Buka SP, Heindel WC. Midlife cognitive predictors of resting state network integrity in individuals at elevated Alzheimer's disease risk. International Neuropsychological Society, Philadelphia, PA, February 4-7, 2026.
- Hu Y-F, Korthauer LE, **Festa EK**, †Blujus JK, Donatelli J, Rogers ML, Papandonatos GD, Heindel WC, Buka SP. Engagement in mid-life social cognitive leisure activity predicts cognitive reserve in older adults. International Neuropsychological Society, Philadelphia, PA, February 4-7, 2026.
- Korthauer LE, Buka SP, **Festa EK**, †Blujus JK, Rogers ML, Papandonatos GD, Heindel WC. Early life factors contribute to associations between educational attainment and cognitive performance in late middle age. International Neuropsychological Society, Philadelphia, PA, February 4-7, 2026.
- Ip J, Heindel WC, **Festa EK**. Theta and alpha EEG dynamics reveal altered semantic processing in aging and MCI. International Neuropsychological Society, Philadelphia, PA, February 4-7, 2026.
- Ruiz K, Escobedo B, **Festa EK**, Zou J, Gollan TH, Salmon DP, Galasko DR, Heindel WC, Jacobs DM. Evaluating the visual short term memory binding test as a measure of sporadic preclinical Alzheimer's disease. International Neuropsychological Society, Philadelphia, PA, February 4-7, 2026.
- †Blujus JK, Jacobs HL, Korthauer LE, Oh H, †DeLong SM, Rogers ML, Papandonatos GD, **Festa EK**, Buka SP, Heindel WC. Cognitive change over 25 years is predictive of in vivo locus coeruleus integrity at age 60. Integrative Neuromodulatory Subcortical Systems (iNSS), Boston, MA, July 17-18, 2025.
- Sinople JA, **Festa EK**, Heindel WC, Korthauer LE. Cognitive reserve moderates the relationship between the aperiodic component of EEG signal and cognitive performance in older adults. Cognitive Neuroscience Society, Boston, MA, March 29-April 1, 2025.
- †Jian W, **Festa EK**, Heindel WC. Effects of retrieval demands and cue/trace interactions on pupil dilation during recognition memory. Cognitive Neuroscience Society, Boston, MA, March 29-April 1, 2025.
- †Ip J, Heindel WC, **Festa EK**. Differential attentional costs of encoding single- vs. multiple-feature objects in visual working memory: An ERP study. Object Perception, Attention, & Memory (OPAM) Conference, New York, NY, November 21, 2024.
- Korthauer LE, Gemelli ZT, Sinople J, Price S, Heindel WC, **Festa EK**. Attenuated N2 amplitude during flanker interference task in older individuals at high risk for Alzheimer's disease. Society for Psychophysiological Research, Prague, Czech Republic, October 23-26, 2024.
- Nassar MR, He M, Feldman J, McLaughlin C, **Festa EK**, Watanabe T, Walsh E, Frank M.J. Age-related declines in visual working memory capacity are linked to reduced levels of parietal glutamate. Cognitive Computational Neuroscience, Boston, MA, August 6-9, 2024.
- Festa EK**, Heindel WC, Marangi, CA, Zou J, Galasko DR, Salmon DP, Jacobs DM. Pupil dilation during visual search is sensitive to plasma pTau181 levels in cognitively healthy older adults. Alzheimer's Association International Conference, Philadelphia, PA, July 28- August 1, 2024.

- Korthauer LE, Sinople J, Gemelli ZT, Heindel WC, **Festa EK**. Resting state EEG theta/beta power ratio and cognitive reserve in cognitively unimpaired older adults. Alzheimer's Association International Conference, Philadelphia, PA, July 28- August 1, 2024.
- [†]Ip J, Heindel WC, **Festa EK**. Differential EEG markers of selective attention and feature binding in visual search. Vision Sciences Society, St. Pete Beach, FL, May 17-22, 2024.
- [†]Jian W, **Festa EK**, He M, Heindel WC. Pupil dilation during recognition memory is influenced by cue-trace interactions but not by memory strength. Cognitive Neuroscience Society, Toronto, Canada, April 13-16, 2024.
- Festa EK**, Marangi CA, Galasko DR, Salmon DP, Qi Y, Messer K, Zou J, Heindel WC, Jacobs DM. Visual sensory binding: A novel behavioral marker of preclinical AD. International Neuropsychological Society, New York, NY, February 14-17, 2024.
- Blujus JK, **Festa EK.**, Papandonatos GD, Rogers ML, Buka SL, Heindel WC. The enduring negative impact of early life adversity on adult cognition is mediated by childhood cognitive ability and educational attainment: A 35-year prospective study. International Neuropsychological Society, New York, NY, February 14-17, 2024.
- [†]Ip J, Heindel WC, **Festa EK**. Age-related effects of audiovisual semantic congruency on living and nonliving object perception. Cognitive Neuroscience Society, San Francisco, CA, March 25-28, 2023.
- [†]Desmond GM, Frömer R, He M, [†]Kim IY, Heindel WC, **Festa EK**. Bottom-up and top-down processes underlying LC-NA system activity revealed by simultaneous pupillometry and EEG. Cognitive Neuroscience Society, San Francisco, CA, March 25-28, 2023.
- [†]Kim IY, **Festa EK**, [†]Desmond GM, He M, Heindel WC, Frömer, R. Distinct EEG markers of higher-level rule selection and lower-level response selection in a hierarchical control task. Cognitive Neuroscience Society, San Francisco, CA, March 25-28, 2023.
- [†]Jian W, He M, **Festa EK**, Heindel WC. Dissociable pupillary response patterns during explicit and implicit memory retrieval. Cognitive Neuroscience Society, San Francisco, CA, March 25-28, 2023.
- Gemelli ZT, **Festa EK**, Heindel WC, [†]Price S, Korthauer LE. Age-related differences in electrophysiological dynamics on a flanker and semantic retrieval task. Cognitive Neuroscience Society, San Francisco, CA, March 25-28, 2023.
- Kavanaugh B, Parade S, Seifer R, McLaughlin N, Tirrell E, **Festa EK**, Oberman L, Novick A, Carpenter LL, Tyrka AR. Childhood stress, gender, and cognitive control: Midline theta power, Brown University's 25th Annual Mind Brain Research Day, Providence, RI, March 2023.
- [†]Sant SM, [†]Cesarini E, Heindel WC, **Festa EK**. Repetition priming of novel geometric shapes is associated with cortical arousal in young adults but spatial attention in older adults. International Neuropsychological Society, San Diego, CA, February 2023.
- Korthauer LE, **Festa EK**, Gemelli ZT, He M, Heindel WC. Uncertainty representation in mild cognitive impairment: Comparing internally cued versus externally driven uncertainty. International Neuropsychological Society, San Diego, CA, February 2023.
- Nitschke S, Shaff N, Wertz C, Stone D, Vakhtin A, Mayer A, **Festa EK**, Heindel WC, Salmon DP, Suarez Cedeno G, Deligtisch A, Richardson SP, Ryman S. Compensatory functional activation during motion discrimination in Parkinson's disease. International Neuropsychological Society, San Diego, CA, February 2023.
- Bracken BK, Winder A, Hager B, Endsley MR, **Festa EK**. Assessing Situation Awareness (SA) Using Single- or Dual-Location Functional Near Infrared Spectroscopy (fNIRS). 16th International Joint Conference on Biomedical Engineering Systems and Technologies, Lisbon, Portugal, February 2023.
- Jacobs DM, **Festa EK**, Galasko DR, Salmon DP, Smirnov DS, Marangi CA, Heindel WC. Visual sensory binding is associated with CSF neurogranin in cognitively healthy older adults. Alzheimer's Association International Conference, San Diego, CA, July 2022.
- Bracken BK, Winder A, Hager B, Endsley M, **Festa E**. Assessing situation awareness (SA) and cognitive workload to maximize effectiveness of military medical training. Military Health System Research Symposium (MHSRS) 2022.

- Rmus M, He M, Baribault B, **Festa E**, Collins A, Nassar M. Reinforcement learning and working-memory changes across lifespan: Bridging cognition, computation and neuroscience. Cognitive Neuroscience Society, San Francisco, CA, April 23-26, 2022.
- Korthauer LE, Gemelli Z, Price S, **Festa EK**, Heindel WC. Electrophysiological dynamics of response inhibition and controlled semantic retrieval. Organization for Human Brain Mapping, Glasgow, Scotland, June 19-23, 2022.
- Blujus JK, Cole MW, **Festa EK**, Correia S, Salloway S, Heindel WC, Oh H. Right posterior hippocampal redundancy reflects brain aging without beta-amyloid deposition. Organization for Human Brain Mapping, Glasgow, Scotland, June 19-23, 2022.
- [†]Foster R, Smith C, **Festa EK**. Course Redesign for Critical Thinking and Scientific Literacy Development. Association of American Colleges and Universities, Virtual, November 5-7, 2020.
- Bracken BK, Leather C, Endslev M, **Festa E**, Tobyne S, Winder A, Farry M. Assessing situational awareness (SA) and cognitive workload to maximize effectiveness of military medical training. Military Health System Research Symposium, Kissimmee, FL, August 24-27, 2020.
- [†]Siefert EM, [†]He M, **Festa EK**, Heindel WC. Cue-trace interactions during episodic memory retrieval: Synergistic ecphory and the pupillary old/new effect. Context and Episodic Memory Symposium, Philadelphia, PA, August 17-19, 2020.
- Festa EK**, [†]He M, [†]Korthauer LE, Ott BR, Heindel WC. Light- and task-induced pupillary response as indirect markers of cholinergic and noradrenergic function in prodromal Alzheimer's disease. Alzheimer's Association International Conference, July 2020.
- Kavanaugh B, Tirrell E, McLaughlin N, Sherman A, Carpenter L, **Festa E**, ... Parade S. (2020). Gamma Oscillations as a Potential Marker of Cognitive Control in Childhood Psychopathology. *Biological Psychiatry*, 87(9), S175.
- Jacobs DM, **Festa EK**, Salmon DP, Galasko DR, Heindel WC. Visual sensory binding in preclinical Alzheimer's disease. Alzheimer's Association International Conference, Los Angeles, CA, July 2019.
- Matthews N, Welch L, **Festa E**, Bruno A. Depth from motion alters radial and rotational motion-defined temporal order judgments. Vision Sciences Society, St. Pete Beach, FL, May 2019.
- Bracken BK, **Festa EK**, [†]Sun H-S, Leather C, Strangman G. Validation of the fNIRS Pioneer™, a Portable, Durable, Rugged Functional Near-Infrared Spectroscopy (fNIRS) Device. 12th International Joint Conference on Biomedical Engineering Systems and Technologies, Prague, Czech Republic, February 2019.
- [†]Korthauer LE, [†]Lai LY, Tremont G, Ott BR, Heindel WC, **Festa EK**. Amyloid burden is associated with perceptual binding deficits within semantic memory. International Neuropsychological Society, New York, NY, February 2019.
- [†]Karpouzian-Rogers T, Heindel WC, Ott BR, Tremont G, **Festa EK**. Phasic alerting and exogenous attentional orienting in aging and mild cognitive impairment. International Neuropsychological Society, New York, NY, February 2019.
- Lynn A, **Festa EK**, Heindel WC, Amso D. Feature integration across the dorsal and ventral streams in childhood. FLUX: The Society for Developmental Cognitive Neuroscience, Berlin, Germany, September 2018.
- Margolis SA, **Festa EK**, [†]Korthauer LE, [†]Gonsalves MA, Oberman LM, Heindel WC, Ott BR. Repetitive Transcranial Magnetic Stimulation in Primary Progressive Aphasia and Behavioral Variant Frontotemporal Dementia: A Case Series. Alzheimer's Association International Conference, Chicago, IL, July 2018.
- Bracken BK, **Festa EK**, [†]Sun H-S, Leather C, Strangman G, Palmon N, Silva F, Pacheco M, de Frederick B. Development and Validation of a Portable, Durable, Rugged Functional Near-Infrared Spectroscopy (fNIRS) Device. 2nd International Neuroergonomics Conference, Philadelphia, PA, June 2018.
- Lynn A, **Festa EK**, Heindel WC, Amso D. Feature integration across the dorsal and ventral streams in childhood. Vision Sciences Society, St. Pete Beach, FL, May 2018.
- Matthews N, Welch L, **Festa E**. Visual timing sensitivity in a world class drum corps. Vision Sciences Society, St. Pete Beach, FL, May 2018.

- Welch L, Matthews N, **Festa E**, Schafer, K. Double dissociation in radial and rotational motion-defined temporal order judgments. Vision Sciences Society, St. Pete Beach, FL, May 2018.
- [†]He M, **Festa EK**, Heindel WC. A synergistic ephory account of pupillary old/new effects during episodic memory. Cognitive Neuroscience Society, Boston, MA, March 2018.
- [†]Lai L, Heindel WC, **Festa EK** Stimulus integrity modulates the effect of context on object recognition. Cognitive Neuroscience Society, Boston, MA, March 2018.
- [†]Korthauer LE, Salmon DP, **Festa EK**, Galasko D, Heindel WC. Response time associated with stimulus uncertainty but not response uncertainty discriminates Alzheimer's disease from healthy aging. International Neuropsychological Society, Washington D.C, February 2018.
- [†]Venkatesan UM, **Festa EK**, Ott BR, Heindel WC. Disentangling deficits in semantic integration and retrieval in aging and Alzheimer's disease. International Neuropsychological Society, Washington D.C, February 2018.
- [†]Venkatesan UM, Margolis SA, Heller B, Tremont G, **Festa EK**, Heindel WC. Forward to the past: Revisiting the role of immediate recognition in assessing episodic memory. National Academy of Neuropsychology, Boston, MA, October 2017.
- Festa EK**, Heindel WC, Santos CY, Snyder PJ. Audiovisual sensory integration is sensitive to beta-amyloid load in the preclinical stage of Alzheimer's disease. Alzheimer's Association International Conference, London, England, July 2017.
- Heindel WC, **Festa EK**, Santos CY, Venkatesan UM, Badre D, Snyder PJ. Controlled semantic retrieval is sensitive to changes in beta-amyloid load in preclinical Alzheimer's disease: A neurocognitive stress test for Alzheimer-related disruptions to frontotemporal pathways. Alzheimer's Association International Conference, London, England, July 2017.
- [†]Schwartz AE, **Festa EK**, Heindel WC. Effects of timbre distortion and arousal on memory for vocal and instrumental melodies. Association for Psychological Science, Boston, MA, May 2017.
- [†]He M, [†]Siefert EM, **Festa EK**, Nassar MR, Heindel WC. Characterization of task-evoked pupillary responses reflecting LC-NA activity-potential indices for cognitive reserve. Brown University's 20th Annual Mind Brain Research Day, Providence, RI, March 2017.
- [†]Lai L, **Festa EK**, Serre T, Ott BR, Heindel WC. Rapid visual categorization reveals disrupted ventral stream processing in early Alzheimer's disease. Cognitive Neuroscience Society, San Francisco, CA, March 2017.
- [†]Venkatesan UM, **Festa EK**, Ott BR, Heindel WC. What drives driving: Differences in the relationship of visual search and sensory binding to driving performance between healthy aging and Alzheimer's disease. International Neuropsychological Society, New Orleans, LA, February 2017.
- Bracken BK, Palmon N, Irvin S, Elkin-Frankston S, Strangman G, **Festa E**. Cognitive assessment and prediction to promote individualized capability augmentation and reduce decrement (CAPT PICARD). NASA Human Research Program Investigators' Workshop, Galveston, TX, January 2017.
- Festa EK**, Wang T, Heindel WC, Song J-H. The effects of cognitive aging on attentional context in visuomotor learning. Society for Neuroscience, San Diego, CA, November 2016.
- [†]Figuroa CM, **Festa EK**, Ott BR, Heindel WC. Sensitivity of component attentional measures to subtle cognitive changes and real-world driving performance in early Alzheimer's disease: A longitudinal examination. International Neuropsychological Society, Boston, MA, February 2016
- Festa EK**, [†]Katz AP, Ott BR, Heindel WC. Perceptual binding of audiovisual speech information is disrupted at the preclinical stage of Alzheimer's disease. Alzheimer's Association International Conference, Boston, MA, July 2013.
- Heindel WC, **Festa EK**, Ott BR, Sofer I, Serre T. Rapid visual categorization as a sensitive measure of early Alzheimer's disease. Alzheimer's Association International Conference, Boston, MA, July 2013.
- Matthews N, Welch L, **Festa E**, Clement A. Remapping time across space. Vision Sciences Society, May 2013.
- Heindel WC, **Festa EK**, Landy K, Salmon DP. Category learning impairments in Alzheimer's disease depends on the mode of acquisition. Cognitive Neuroscience Society, Chicago, IL, April 2012.

- Festa EK**, Ott BR, Tremont G, Heindel WC. Impaired binding of perceptual information within semantic memory in early-stage Alzheimer's disease: Behavioral evidence for disrupted functional connectivity. Cognitive Neuroscience Society, Chicago, IL, April 2012.
- Festa EK**, Ott, BR, Tremont G, Heindel WC. Neocortical disconnectivity disrupts semantic binding in Alzheimer's disease. International Conference on Alzheimer's Disease, Paris, France, July 2011.
- Davis JD, Papandonatos GD, Miller LA, Knott SL, **Festa EK**, Heindel WC, Barco P, Ott BR. Road Test and Naturalistic Driving Behavior in Older Adults with and without Memory Loss: Environment Matters. International Neuropsychological Society, Boston, MA, February 2011.
- Festa EK**, Heindel WC. Category-specific differences in multisensory integration: An ERP investigation of semantic congruency effects for living and nonliving items. Cognitive Neuroscience Society, Montreal, Canada, April 2010.
- Festa EK**, Heindel WC, Connors NC, Hirshberg L, Ott BR. Neurofeedback training enhances the efficiency of cortical processing in normal aging. Cognitive Neuroscience Society, San Francisco, CA, March 2009.
- Heindel WC, **Festa EK**, [†]Set S, Miller LA, Davis JD, Ott BR. Integrating features across and within cortical streams in visual search: Differential effects of aging and Alzheimer's disease. Cognitive Neuroscience Society, San Francisco, CA, March 2009.
- Festa EK**, Papandonatos GD, Ott BR, Heindel WC. Cognitive factors associated with longitudinal decline in driving skills in patients with Alzheimer's disease. International Conference on Alzheimer's Disease, Chicago, IL, July 2008.
- Daiello LA, Ott BR, **Festa EK**, Heindel WC. Cholinesterase inhibitors improve visual attention in drivers with Alzheimer's disease. International Conference on Alzheimer's Disease, Chicago, IL, July 2008.
- Kane AE, **Festa EK**, Heindel WC, Salmon DP. The integrity of priming in Alzheimer's disease depends on the nature of the representation rather than the fate of activation. International Neuropsychological Society, Waikoloa, HI, February 2008.
- Ott BR, Heindel WC, Papandonatos G, **Festa EK**, Davis JD, Daiello LA, Morris JC. A longitudinal study of drivers with dementia, American Neurological Association, Washington D.C, October 2007.
- Festa EK**, Ott BR, Heindel WC. The effect of dual-task engagement on response-selection interference in aging and Alzheimer's disease. Cognitive Neuroscience Society, New York, NY, May 2007.
- Strangman GE, **Festa EK**, [†]Moran L, Gitten JC, Heindel WC. Perceptual fusion of mismatched audiovisual information requires working memory: An fMRI study of the McGurk effect. Cognitive Neuroscience Society, New York, NY, May 2007.
- Heindel WC, [†]Long VV, **Festa EK**, Taylor JR. Category-specific effects of automatic and controlled semantic processing: An event-related potential investigation of normal and reversed semantic priming effects. Cognitive Neuroscience Society, New York, NY, May 2007.
- Davis JD, Tremont G, Ott BR, **Festa EK**, Heindel WC. Longitudinal analysis of neuropsychological functioning and on-road performance in drivers with mild dementia. International Neuropsychological Society, Portland, OR, February 2007.
- Ott BR, **Festa EK**, Amick M, Grace J, Davis J, Heindel WC. Computerized maze navigation and on-road performance in drivers with dementia. International Conference on Alzheimer's Disease and Related Disorders, Madrid, Spain, July 2006.
- Grace J, Amick M, D'Abreu A, **Festa EK**, Heindel WC, Ott BR. Relationship between neuropsychological tests and on-road driving in Parkinson's disease. International Neuropsychological Society, St. Louis, MO, February 2005.
- Festa-Martino E**, [†]Ebesutani C, Heindel WC. Phasic alerting and spatial orienting interact under peripheral but not central cuing conditions: Evidence for a selective enhancement of sensory processing. Vision Sciences Society, May 2004.
- Festa-Martino E**, [†]Ebesutani C, Taylor JR, Heindel WC. Phasic arousal selectively enhances sensory processing in exogenous orienting. Cognitive Neuroscience Society, New York, NY, March 2003.

- Festa-Martino E**, †Insler RZ, Salmon DP, Paxton J, Hamilton JM, Heindel WC. Impaired sensory integration in Alzheimer's disease. International Neuropsychological Society, Honolulu, HI, February 2003.
- †Corriveau K, **Festa-Martino E**, †Winer J, Gitten J, Heindel WC. Dissociation between two types of word-form priming in developmental dyslexia. International Neuropsychological Society, Honolulu, HI, February 2003.
- †Corriveau K, **Festa-Martino E**, †Winer J, Gitten J, Heindel WC. Increased visual persistence in children with developmental dyslexia. International Neuropsychological Society, Honolulu, HI, February 2003.
- †Winer J, Gitten J, †Corriveau K, **Festa-Martino E**, Heindel WC. Conditional associative learning of spatial and object information in ADHD. International Neuropsychological Society, Honolulu, HI, February 2003.
- Festa-Martino E**, †Gindes A, Heindel W. Driving and covert orienting: Differential effects of dual-task conditions on selective attention and arousal. Vision Sciences Society, May 2002.
- Festa-Martino E**, Heindel W, Ott B. (2001). Differential effects of aging and Alzheimer's disease on selective attention and arousal. *Investigative Ophthalmology and Visual Science (Suppl.)*, 42, S852.
- †Rissman J, Heindel W, **Festa-Martino E**. Orientation-specific holistic processing of human faces. Cognitive Neuroscience Society, New York, NY, March 2001.
- Heindel W, **Festa-Martino E**, Ott B. Retrieval from Semantic Memory: Differential effects of aging and Alzheimer's disease. Cognitive Neuroscience Society, San Francisco, CA, March 2000.
- Festa-Martino E**, Shepp B. (1999). The search for features in a selective attention task. *Investigative Ophthalmology and Visual Science (Suppl.)*, 40, S346.
- Festa-Martino E**, Shepp B. What's in a Name? : Some matches are better than others. Eastern Psychological Association, Boston, MA, April 1999.
- Festa EK**, Welch L. (1998). Perceived speed of motion metamer depends upon component signal strength. *Investigative Ophthalmology and Visual Science (Suppl.)*, 39, S426.
- Festa EK**, Welch L. Perceived speed of compound stimulus depends on component signal strength. Eastern Psychological Association, Boston, MA, February 1998.
- Festa EK**, Welch L. (1997). Motion capture depends on signal strength. *Investigative Ophthalmology and Visual Science (Suppl.)*, 38, S74.
- Ascher D, Welch L, **Festa EK** (1996). Adaptation to stationary gratings results in an increase in apparent speed of moving gratings. *Investigative Ophthalmology and Visual Science (Suppl.)*, 37, S917.
- Festa EK**, Welch L. (1996). Apparent direction does not depend on transparency/ non-transparency. *Investigative Ophthalmology and Visual Science (Suppl.)*, 37, S739.
- Festa EK**, Welch L. (1995). Multiple recruitment mechanisms in motion. *Investigative Ophthalmology and Visual Science (Suppl.)*, 36, S636.
- Festa EK**, Shepp B. Practice and encoding time affect retrieval of stimulus representation. Eastern Psychological Association, Providence, RI, April 1994.

INVITED COLLOQUIA/LECTURES

- Festa EK. Attentive and preattentive sensory binding in aging and Alzheimer's Disease. Invited lecture in graduate core course (CLPS2001) in the Department of Cognitive and Psychological Sciences, Brown University, Providence, RI, October 2024.
- Festa EK. Attentional network interactions in healthy aging and Alzheimer's disease. Invited lecture in graduate core course (CLPS2001) in the Department of Cognitive, Linguistic and Psychological Sciences, Brown University, Providence, RI, November 2021.
- Festa EK. Attentional processing differences in healthy aging and Alzheimer's disease. Invited lecture in graduate core course (CLPS2001) in the Department of Cognitive, Linguistic and Psychological Sciences, Brown University, Providence, RI, October 2020.

- Festa EK. Episodic memory in healthy aging and Alzheimer's disease. Invited lecture in graduate core course (CLPS2001) in the Department of Cognitive, Linguistic and Psychological Sciences, Brown University, Providence, RI, December 2017.
- Festa EK. Disrupted multisensory integration as a marker of early Alzheimer's disease. Talk presented at the Brown University Clinical Psychology Training Consortium, Alpert Medical School, June 2017.
- Festa EK. Effects of music on measures of arousal, mood, attention and memory: An age-related study. Talk presented at the Alzheimer's Disease and Memory Disorders Center Meeting, Rhode Island Hospital, Providence, RI, May 2012.
- Festa EK. Assessing the efficacy of neurofeedback training in healthy aging and Alzheimer's disease. Talk presented at the Alzheimer's Disease and Memory Disorders Center Meeting, Rhode Island Hospital, Providence, RI, March 2011.
- Festa EK. Attention and sensory integration in Alzheimer's disease. Invited colloquium at Roger Williams University, Bristol, RI, January 2010.
- Festa EK. Cognitive neuroscience: Linking mind to brain. Invited lecture in the Psychology of Consciousness undergraduate course at Roger Williams University, Bristol, RI, January 2010.
- Festa EK. The unraveling of sensory integration in Alzheimer's disease. Invited lecture at the Brown University Alzheimer's Activist Group, Providence, RI, December 2009.
- Festa EK. The ties that bind: Understanding the changes in attention and sensory integration in aging and Alzheimer's disease. Invited lecture at Laurel Meade Assisted Living Community Center, Providence, RI, March 2009.
- Festa EK. Breaking the ties that bind: Attention and sensory integration in Alzheimer's disease. Invited colloquium at Hamilton College, Clinton, NY, January 2009.
- Festa EK. Breaking the ties that bind: Attention and sensory integration in Alzheimer's disease. Invited colloquium at Syracuse University, Syracuse, NY, January 2009.
- Festa EK. Non-memory impairments in Alzheimer's disease: Breaking the ties that bind. Invited colloquium at Cleveland State University, Cleveland, OH, December 2008.
- Festa EK. Improvements in attentional processing with neurofeedback training in healthy aging. Talk presented at the Alzheimer's Disease and Memory Disorders Center Meeting, Rhode Island Hospital, Providence, RI, September 2008.
- Festa EK, Heindel WC. Assessing the efficacy of neurofeedback training in aging and Alzheimer's disease: A cognitive neuroscience approach. Invited Talk for the 39th Annual meeting of the Applied Psychophysiology and Biofeedback Society, Daytona, FL, May 2008.
- Festa EK, Heindel WC. A New Look at Alzheimer's Disease: Can neurofeedback training be an effective behavioral intervention? Invited Talk for the 38th Annual meeting of the Applied Psychophysiology and Biofeedback Society, Monterey, CA, February 2007.
- Festa EK. Sensory Integration: A potential neurocognitive marker for early detection of Alzheimer's disease. Talk presented at the Alzheimer's Disease and Memory Disorders Center Meeting, Rhode Island Hospital, Providence, RI, April 2006
- Festa-Martino E. Beyond the forgetting: Attention, sensory integration, and neocortical dysfunction in Alzheimer's Disease. Invited colloquium at Connecticut College, New London, CT, March 2004.
- Festa-Martino E. Recovery of Brain Function. Lecture given in the Behavioral Neuroscience Course (PY314), Connecticut College, April 2004.
- Festa-Martino E. Effects of aging and Alzheimer's disease on spatial orienting and phasic arousal. Talk presented at the Alzheimer's Disease and Memory Disorders Clinic Meeting, Memorial Hospital, Pawtucket, RI, December 2003.
- Festa-Martino E. Attention, arousal and driving in aging and dementia. Invited colloquium at Assumption College, Worcester, MA, February 2002.

Festa-Martino E. Psychophysics of color and motion processing. Lecture given in the fMRI GISP undergraduate seminar, Brown University, November 2001.

Festa-Martino E. Differential effects of aging and Alzheimer's disease on attention. Talk presented at the Alzheimer's Disease Memorial Hospital Research Meeting, Pawtucket, RI, February 2001.

Festa-Martino E. Motion capture produces metamers. Invited colloquium at Smith-Kettlewell Eye Research Institute, San Francisco, CA, April 1998.

TEACHING EXPERIENCE

Courses Taught at Brown University:

Eye-Tracking and Pupillometry Lab	Spring 2025
Cognitive Neuropsychology	Spring 2018 – 2024 (5 semesters)
Mind, Brain & Behavior: An Interdisciplinary Approach	Fall 2017 – 2024 (8 semesters)
Directed Readings in Alzheimer's Disease and Sleep Chronobiology	Fall 2016
Seminar in Cognitive Neuropsychology	Spring 2015, 2016
Introduction to Psychology with Laboratory	Spring 2012 – 2017 (6 semesters)
Brain Damage and the Mind	2007 – 2019 (11 semesters)
Seminar in Cognitive Aging and Dementia	2009 – 2025 (12 semesters)
Seminar in Cognitive Neuroscience: Visual Attention	Fall 2007
Quantitative Methods in Psychology	Summer 2002

Advising/Student Committees at Brown University:

Cognitive Neuroscience Advisor	2022 – 2025
Director of Undergraduate Studies	2020 – 2022
Honors Advisor	2018 – 2019, 2020 – 2025
Psychology Concentrator Advisor	2014 – 2019
Undergraduate Curriculum Committee Member	2014 – 2025
Health Careers Advisory Committee	2017 – 2019
Psychology Honors Advisor	2014 – 2018
First-year Undergraduate Advisor	2013 – 2016
Sophomore Undergraduate Advisor	2008 – 2017, 2024 – 2025
Graduate Student Dissertation Committee Member	2011 – present
Graduate Student Preliminary Exam Committee Member	2008 – present
Graduate Student First-year Project Committee Member	2006 – present

Research and Independent Study Supervision at Brown University (1999-Present)

Undergraduate Honors Projects:

2024-2025

- Irene Kwon - A pupillometric investigation of controlled semantic retrieval in healthy young and older adults.
- Naia Wolfenzon*** - A pupillometric investigation of emotional regulation style on visual working memory.
- Clara Lee Molina - Neural correlates of performance measures in the Rey-Osterrieth Complex Figure test and their relationship to risk for Alzheimer's disease.

2023-2024

- Carter Moyer - A lifespan perspective: Predicting Alzheimer's disease biomarker levels via machine learning modeling of cognitive and social adversity variables.

- Elicia Colon - From a different lens: A neurocognitive look into the impacts of the attentional binding effect and suffix interference on feature binding.

2022-2023

- Isaac Kim**** - Distinct EEG markers of higher-level rule selection and lower-level response selection in a hierarchical control task.
- Grace Desmond*** - Bottom-up and top-down processes underlying LC-NA system activity revealed by simultaneous pupillometry and ERP.

2021-2022

- Abigail Perelman - Neural signatures of working memory and feature binding in a motion-object tracking task.

2020-2021

- Chris Schutte** - Aging and the influence of gains and losses on memory encoding and retrieval: A combined behavioral and pupillometric evaluation.
- Eleni Gkini - The effects of healthy and pathological aging on the bottom-up and top-down modulation of locus coeruleus activity: A pupillometric study.

2019-2020

- Charlotte Jeong** - The effects of aging and risk of Alzheimer's disease on the neural dynamics of predictive processing during language comprehension: An electrophysiological investigation.
- Jennifer Dzul - Are distractors really that distracting? A closer look into target vs distractor sensitivity in older adults.

2018-2019

- Elizabeth Seifert*** - Cue/Trace interactions during episodic memory retrieval: Synergistic ephory and the pupillary old/new effect.

2017-2018

- Anna Schwartz - The effects of timbre distortions, arousal, and spatial orienting on memory for vocal and instrumental melodies.
- Spencer Price*** - Electrophysiological dynamics of controlled semantic retrieval.

2016-2017

- Mingjian He* - Characterization of task-evoked pupillary responses reflecting LC-NA activity- potential indices for cognitive reserve.
- Meghan Gonsalves - The effect of repetitive transcranial magnetic stimulation on naming and inhibitory control in frontotemporal dementia.
- Michelle Hoang - Noradrenergic modulation of cortical arousal and repetition priming: A pupillometric investigation of locus coeruleus function.

2015-2016

- Michelle Jolson - The effects of happy versus sad mood on false memory.
- Emily Thurston* - Influences of top-down and bottom-up factors on audiovisual speech processing.
- Jamie Pospishil - Behavioral changes in frontal and temporal components of semantic processing in aging and dementia.

2012-2013

- Allison Chernov** - Effects of aging and Alzheimer's disease on processing efficiency in rapid visual categorization.
- Andrew Katz - Audiovisual speech integration in healthy aging and preclinical Alzheimer's disease: The disruption of perceptual binding as a sensitive marker for early detection.

2011-2012

- Karen Duong - Effects of healthy aging and Alzheimer's disease on performance in a rapid visual categorization task.
- MariaLisa Itzoe - Effects of music on measures of arousal, mood, attention, and memory: An age-related study.

2008-2009

- Dara Steinberg - Selective attention in aging and Alzheimer's disease: A laboratory assessment and relationship to naturalistic driving performance.

2007-2008

- Samantha Set* - Integrating features across and within visual streams: Effects of aging and Alzheimer's disease on visual search.
- Andrea Posa - The efficacy of neurofeedback training on behavioral and electrophysiological measures in normal aging.

2005-2006

- Victor V. Long*** - Electrophysiological investigation of automatic and controlled processes in semantic priming.

2003-2004

- Caroline Habbert - Multimodal integration amidst cortical disconnection? The McGurk effect and Alzheimer's disease.

2002-2003

- Chad Ebesutani* - Interaction between phasic arousal and exogenous orienting in young adults.

2001-2002

- Rachel Z. Insler - Differential effects of color and luminance information on motion perception in aging and Alzheimer's disease.

1999-2000

- Jesse Rissman - Orientation-specific holistic processing of human faces: Exploring the relationship between selective attention and perceptual representation.

Recipient of the Harold Schlosberg Memorial Premium; **Recipient of the Muriel Fain Sher Premium; *Recipient of the Cognitive Neuroscience Premium, ****Recipient of the Cognitive Science Premium*

Undergraduate Independent Studies:

2025-2026

- Kai Campbell – Stigma-Related Stress and Emotional Perception in College Students: Eye Gaze, Pupillometry, and Perceptual Sensitivity to Labeling Emotion Expressions

2024-2025

- Brian Ellis – Executive control in late adulthood: The impact of early childhood adversity and education on flanker task performance
- Fopofoluwa Akinyede – Bridging research and public health: Investigating dementia risk reduction and community-based interventions

2023-2024

- Tierra Williams - Marking Memory, Brown | RISD Capstone Project

2022-2023

- Jilienne Widener - The role of bottom-up and top-down attention in explicit vs. implicit memory.
- Samantha Alzate - Investigating teens attitudes toward self.

2019-2020

- Yunjung Cho - Light and spatial perception: Utilizing Brown University's YURT for creating a virtual reality experience, Brown | RISD Capstone Project
- Noa Mintz - Effects of healthy aging on motivation and cognitive control processes.
- Carissa Perez - Effects of healthy aging on motivation and cognitive control processes.
- Isabel Riches - Language processing in older adults at-risk for Alzheimer's disease using EEG and pupillometry.
- Abigail Perelman - Effects of healthy aging on episodic memory retrieval using pupillometry.
- Eleni Gkini - Effects of healthy aging on episodic memory retrieval using pupillometry.
- Anna Kaneb - Effects of healthy aging on episodic memory retrieval using pupillometry.

2016-2017

- Olabade Omole - Effect of boredom and cognitive load on EEG and fNIRS measures of brain activity in healthy young adults.

2015-2016

- Dumichel Harley - Effect of healthy aging on rate of visuomotor learning under dual task conditions.
- Cassandra Fisher - From reminiscing to sound strengthening: an investigation of how parental reading styles are influenced by early childhood storybook reading interventions.

2014-2015

- Ming Jian He - Assessing attentional network impairments in healthy aging and Alzheimer's disease using ex-Gaussian reaction time distribution analyses.

2013-2014

- Gillian Michaelson - Long-term memory for category information: Effects of mode of learning on prototype retention.
- Stefan Rodriguez - Influence of lexicality and articulation on audiovisual speech perception of McGurk stimuli.

2012-2013

- Alina Petteruti - Effect of audiovisual temporal offsets on lexical speech perception in healthy young and elderly adults.

2011-2012

- Donnelle Latimer - Immediate effects of neurofeedback training on qEEG measures of brainwave activity in healthy elderly and Alzheimer's disease patients.

2008-2009

- Brittany Anderson - Category-specific effects of color information on object recognition: A behavioral investigation of the perceptual basis of semantic memory.

2007-2008

- Sarah Calaug - Electrophysiological investigations of cross-modal semantic integration.

2005-2006

- Jessica Larson - Audiovisual integration in aging and Alzheimer's Disease: an fMRI study.

2000-2001

- Phoenix Kalen - Effects of aging and Alzheimer's disease on driving performance.
- Anna Gindes - Effect of attention deficits on driving performance in Alzheimer's disease.

1999-2000

- Elizabeth Corey - Effect of perceptual representation on illusory conjunctions.

Post-Doctoral Students (Co-advisor):

- Jenna Blugas - Mechanisms of risk and resilience to Alzheimer's disease across the lifespan, *ongoing*.
- Laura Korthauer - Early cognitive changes associated with Alzheimer's disease, *2018-2020*.

PhD Graduate Students (Co-advisor):

- Wen Jian - Relation of locus coeruleus function to memory performance, *ongoing*.
- Jessica Ip - Effects of healthy aging and Alzheimer's disease on multisensory perception, *ongoing*.
- Leslie Lai - Age-related changes in bottom-up and top-down processing mediating visual recognition, *April 2019*.

MSc Graduate Students (Co-advisor):

- MingJian He - Effects of healthy aging on task-evoked pupillary responses: Relation of LC-NA Activity to cognitive reserve, *April 2018*.
- Charles King - Effects of object boundaries on attentional cueing: Support for object guided spatial attention, *May 2007*.
- Lynelle Cortellini - Category-specific processing within semantic memory: Effects of foveal versus parafoveal presentation, *May 2007*.
- Ellen Goldman - Attentional and perceptual processing in Alzheimer's disease, *May 2000*.

Clinical Psychology Resident Trainer (Co-advisor):

- Tatiana Karpouzian Rogers - Arousal and Attentional Mechanisms in Aging and Alzheimer's Disease, *July 2018- June 2019*.
- Laura Korthauer - Cognitive Neuroscience of Alzheimer's Disease, *July 2017- June 2018*.
- Umesh Venkatesan - Sensory Binding and Attentional Mechanisms in Alzheimer's disease, *July 2016-June 2017*.
- Christina Figueroa - Cognitive Neuroscience of Alzheimer's Disease, *July 2015- June 2016*.

Other Advising Roles:

Teaching UTRA Mentor:

- Emi Fogg & Broderick Allan, Development of "Mind, Brain and Behavior: An Interdisciplinary Approach" Course, *Summer 2017*.

Research UTRA Mentor:

- Saraphina Forman - Analyzing graphs generated from viewing patterns of 2D art, *Fall 2022*.
- Isaac Kim - Age-related changes in the dynamics of cognitive flexibility: A neural systems perspective, *Summer 2022*.
- Grace Desmond - The effects of aging on neural mechanisms of cognitive reserve, *Summer 2022*.
- Abigail Perelman - Age-related changes in the neural signatures of attention in a motion-object tracking task: A combined EEG and pupillometry study, *Summer 2021*
- Anna Schwartz - The influence of musical auditory processing on cognitive function, mood, and arousal in healthy aging and Alzheimer's disease, *Summer 2016*
- Emily Thurston - Feature binding and memory in aging and dementia, *Summer 2015*.
- Maria Lisa Itzoe - Age-related effects of music on measures of arousal and working memory, *Summer 2011*.

Behavioral Decision Sciences Capstone Faculty Advisor

- Wesley Rockett - The effects concussions on decision making in college athletes, *Fall 2022*.
- Gianna DeVincenzo - Aging and empathy: Effort-based prosociality decreases with age, *Fall 2021*.

K99 Co-Advisor:

- Matt Nassar - Cognitive and Molecular Challenges to Statistical Inference across Healthy Aging, *July 2017- June 2019*.

Connecticut College Summer Internship Supervisor:

- Katherine McDonald - Sensory Binding and Semantic Memory in Epilepsy Patients, *Summer 2015*.

PROFESSIONAL ACTIVITIES AND SERVICE

Brown University Sheridan Center Equitable Learning Inquiry Fellow	2024 – present
Brown University CoPsy Chair of Communications Committee	2024 – 2025
Brown University Junior Faculty Mentor	2020 – present
Brown University Task Force on Faculty Compensation Member	2023 – 2024
Brown University UTRA Mentoring Program	2023 – 2024
Brown University CLPS Professor of Practice Hiring Committee	2023
Evidence-Based Teaching and Course Development Workshops:	

Sponsored by Harriet W. Sheridan Center for Teaching and Learning, Brown University

- InteDashboard - Managing Team Work in Large Classes July 2024
- Expanding our Disciplinary Boundaries to embrace SoTL as Scholarly Work July 2024
- How I Grade: Evidence-based Practices for Remote Exams July 2020
- Zern Endowment Curriculum Development Grant for STEM courses 2019
- Sheridan Teaching Seminar-Reflective Teaching (Certificate I) Program 2018 – 2019
- Interactive Workshop: Performing Culturally Sustaining Literacy Pedagogies July 2019
- Writing Across the Curriculum Faculty Workshop June 2018
- Active Learning in Large Lecture Halls Workshop March 2018
- Scaffolding Assignments to Improve Student Learning Workshop February 2018

Sponsored by Harriet W. Sheridan Center for Teaching and Learning & Digital Learning and Design

- Anchor Online Course Design Institute (Participant and Facilitator) June & July 2020

Sponsored by the National Science Foundation

- The Grading Conference – Higher Ed Focus June 2024

Research Development Training:

Live Z-Score Neurofeedback Training with Brain Master Workshop <i>Stress Therapy Solutions</i>	January 2007
Matlab Programming Course <i>Department of Neuroscience, Brown University</i>	January 2003
Visiting Fellowship Program in Functional MRI <i>MGH-NMR Center, Boston, MA</i>	June 2001

Editorial Board Member of *Journal of Alzheimer's Disease* 2018

Ad Hoc Reviewer for: 1996 - present

Granting Agencies - Alzheimer's Association; National Science Foundation; Canada Foundation for Innovation; The Retirement Research Foundation; Belgian Alzheimer Foundation

Journals - Alzheimer's & Dementia; Alzheimer's Research & Therapy; Archives of Clinical Neuropsychology; Behavioral Neuroscience; BMC Psychology, Cortex; Ergonomics; Frontiers in Psychology; Frontiers in Neuroscience; Investigative Ophthalmology & Visual Science; Journal of Applied Gerontology; Journal of Experimental Child Psychology; Journal of Gerontology: Psychological Science; Journal of NeuroEngineering and Rehabilitation; Journal of Neurophysiology; Journal of Vision; Neurobiology of Aging; Neuropsychologia; Neuropsychology; Neuropsychology Review; Perception; PLOS; Psychological Science; Psychophysiology; Traffic Injury Prevention; Vision Research

Textbook Publishers – W.W. Norton: InQuizitive Course Author for Cognition 8e; Test bank & Course Pack Quiz Reviewer for Cognition 8e; Chapter Reviewer for Psychological Sciences 7e