9/25/2024

SARAH H. CREEM-REGEHR

sarah.creem@psych.utah.edu
https://psych.utah.edu/people/faculty/creem-regehr-sarah.php

OFFICE ADDRESS
Department of Psychology
University of Utah
380 S. 1530 E., Room 502
Salt Lake City, UT 84112
Phone: 801-581-5045

EDUCATION

May 2000	Ph.D. in Psychology, University of Virginia
May 1997	M.A. in Psychology, University of Virginia
May 1994	B.A. in Psychology, Colgate University

PROFESSIONAL EXPERIENCE

2023 – present	Chair, Psychology Department, University of Utah
2013 – present	Professor, Psychology Department, University of Utah
2013 – present	Adjunct Professor, School of Computing, University of Utah
2001 – present	Faculty Participant, Graduate Program in Neuroscience, University of Utah
2006 – 2013	Associate Professor, Psychology Department, University of Utah
2006 – 2013	Adjunct Associate Professor, School of Computing, University of Utah
2000 – 2006	Assistant Professor, Psychology Department, University of Utah
2003 – 2006	Adjunct Assistant Professor, School of Computing, University of Utah
July 2000	Visiting Scientist, University of Western Ontario, London, Canada

SHORT BIO

Sarah Creem-Regehr is a Professor in the Psychology Department at the University of Utah. She also holds faculty appointments in the School of Computing and the Neuroscience program at the University of Utah. She received her M.A. and Ph.D. in Psychology from the University of Virginia. Her research examines how humans perceive, learn, and navigate spaces in natural, virtual, and visually impoverished environments. Her research takes an interdisciplinary approach, combining the study of space perception and spatial cognition with applications in visualization and virtual environments. Her work in computer graphics and virtual environments has contributed to solutions to improve the utility of virtual environment applications by studying human perception and performance. She co-authored the book *Visual Perception from a Computer Graphics Perspective*, was Associate Editor for *Psychonomic Bulletin & Review*, *Journal of Experimental Psychology: HPP* and *Quarterly Journal of Experimental Psychology*, and is currently Editor in Chief of *Cognitive Research: Principles and Implications.*

ACADEMIC HONORS

2018	College of Social and Behavioral Science Superior Research Award	University of Utah
2011	Irwin Altman Outstanding Psychology Faculty Award	University of Utah
2005	College of Social and Behavioral Science Superior Research Award	University of Utah
2003	Psi Chi Award for Excellence in Teaching	University of Utah
2002	Psi Chi Teaching Award, Best Lecturer	University of Utah
2001	Psi Chi Teaching Award, Best Presentation Skills	University of Utah
2000	Outstanding Graduate Teaching Award	University of Virginia
1999	Distinguished Teaching Fellow	University of Virginia

1999 McDonnell-Pew Summer Institute in Cognitive Neuroscience Fellowship

FUNDED GRANTS (EXTERNAL), PRESENT

NIH/NICHD 1R21HD110713-01A1 *Sensory Integration for Spatial Navigation After Concussion*, Role: MPI with Peter Fino (12/01/23 – 11/30/25), 2024: $225,858; 2025: $189,886.

ONR, N0014-21-1-2583 *Augmented Reality Cues for Navigational Success (ARCNAV)*, Role: PI of subaward with Bobby Bodenheimer (Vanderbilt PI), with co-PI Jeanine Stefanucci (9/01/2021-8/31/2025), 1,195,909.00 total ($506,914 Utah).

FUNDED GRANTS (INTERNAL)

University of Utah 1U4U Grant: Using Virtual-Reality to Assess Sensory Integration for Navigation and Balance Control in People with Chronic Symptoms after Concussion (07/01/23 – 12/31/24), $30,000.

Center on Aging, University of Utah, Effects of Older Age on Sensory Integration in Navigation (07/01/21-06/30/23). $20,000.

FUNDED GRANTS (EXTERNAL), PAST

National Science Foundation CHS: Medium: Collaborative Research: Designing virtual worlds for children: A developmental study of how children act, perceive, and reason spatially, Role: Co-PI with Jeanine Stefanucci (PI) and William Thompson $539,504, 8/1/18-7/31/24.

ONR, DURIP, *Virtually Co-located augmented reality spaces for visualization, training, and navigation,* Role: Subcontract PI, P.I. Robert Bodenheimer (Vanderbilt University), Utah funding: $51,978, awarded October 2020.

ARI, BAA, W911NF-19-S-0006: *Assessing Spatial Memory Gist and Situational Awareness in Complex Environments,* Role: Co-P.I. with Jeanine Stefanucci (PI Brent Chamberlain at Utah State University), $394,589 (Utah), 9/1/2020-8/31/23.

Army Research Office, W911NF-20-2-0268, Evaluating the Efficacy of Simulated Augmented Reality Cueing in Virtual Reality, Role: Co-I with Jeanine Stefanucci. Trafton Drew PI, 10/1/2020- 9/30/2021, $325,000

Army Research Office, Augmented target recognition: Quantifying the costs and benefits of implementation, Role: Co-PI with Jeanine Stefanucci, Trafton Drew PI, 5/1/2020-4/30/2021, $147,826.

Office of Naval Research, N00014-18-1-2964 Affordances for Quantitative and Objective Measures of Immersion and Presence, Role: PI of subaward with Bobby Bodenheimer (Vanderbilt PI), with co-PIs Jeanine Stefanucci, and William Thompson (1/01/18 - 12/31/21) $269,780 (Utah)

National Institutes of Health/National Eye Institute, BRP 2 R01 EY017835-06A1 Designing Visually Accessible Spaces, Role: Co-I with William Thompson, Robert Shakespeare, Daniel Kersten, and Gordon Legge (PI) (03/01/2014 – 02/28/21), $1,109,991 (Utah).

Army Research Office, Improving operationalization of temporal aspects of population-centric data through 3D immersive environments, Role: Co-PI with Jeanine Stefanucci (PI) $119,848, 3/15/18- 6/1/20

National Science Foundation, IBSS: Age Changes and Sex Differences in Spatial Cognition: Testing the Role of Mobility in Three Non-Industrial Societies and the US, Role: Co-PI with Elizabeth Cashdan, Jeanine Stefanucci and Harvey Miller, (9/15/13-2/28/19), $999,871 (Utah).

National Science Foundation, CGV: Large: Collaborative Research: Modeling, Display, and Understanding Uncertainty in Simulations for Policy Decision Making, Role: Co-PI with Ross Whitaker, Miriah Meyer, Mike Kirby, William Thompson, (10/1/12-6/30/18), $1,799,124.

National Science Foundation, HCC: Small: Collaborative Research: The Influence of Self-Avatars on Perception and Action in Virtual Worlds, PI: William Thompson, Co-PIs: Sarah Creem-Regehr, Jeanine Stefanucci (9/1/11 – 8/31/16), $265,927 ($500,000 total for both institutions).

National Science Foundation, IIS, HCC: Small: A New Method for Evaluating Perceptual Fidelity in Computer Graphics, PI: William Thompson, Co-PIs: Sarah Creem-Regehr, Jeanine Stefanucci (08/01/09-7/31/14), $498,893.

National Institutes of Health/National Eye Institute, 1 R01 EY017835-01, Designing Visually Accessible Space, Role: Co-I with William Thompson, Robert Shakespeare, Daniel Kersten, and Gordon Legge (PI), (03/01/2007 - 02/29/2013), $1,192,829 Utah ($2,575,146 total for all institutions).

National Science Foundation, HCC: Improving Spatial Perception in Virtual Environments. PI: William Thompson, Co-PI: Sarah Creem-Regehr, (09/1/07-2/28/10), $99,970.

National Science Foundation, ITR/SY: Collaborative Research on the Perceptual Aspects of Locomotion Interfaces, Co-PI with William Thompson, Peter Shirley, John Hollerbach, John Rieser, Herbert Pick, Claude Fennema (9/01/01 – 08/31/08), $1,400,000 ($2,493,705 total for all participating institutions).

National Science Foundation, CCF-Advanced Volume Visualization Techniques, Co-PI with Chuck Hanson, (2/1/06-1/31/09), $250,721.

National Science Foundation, ITR/HCI: Collaborative Research: Generating an Accurate Sense of Depth and Size Using Computer Graphics, Co-PI with William Thompson, (10/01/00 – 9/01/04), $378,881.

PUBLICATIONS, *student co-authors, h-index 51, i-index 104

Journal Articles

95. Shayman, C.S., McCracken, M.K., Finney, H.C., Fino, P.C., Stefanucci, J.K, & **Creem-Regehr, S.H.** (2024). Integration of auditory and visual cues in spatial navigation under normal and impaired viewing conditions. *Journal of Vision.*

94. Whitaker, M. M.*, Hansen, R. C.*, **Creem-Regehr, S. H.,** & Stefanucci, J. K. (2024). The relationship between space and time perception: A registered replication of Casasanto and Boroditsky (2008). *Attention, Perception, & Psychophysics*.

93. Shayman, C.S*, Whitaker, M.M.*, Barhorst-Cates, E.M., Hullar, T., Stefanucci, J.K. & **Creem-Regehr, S.H.** (2024). The addition of a spatial auditory cue improves spatial updating in a virtual reality navigation task. *Attention, Perception & Psychophysics.*

92. Shayman, C.S.*, McCracken, M.K*, Finney, H.C*, Katsanevas, A.M.*, Fino, P.C., Stefanucci, J.K., & **Creem-Regehr, S.H.** (2024). Effects of older age on visual and self-motion sensory cue integration in navigation. *Experimental Brain Research.*

91. Gagnon, H.*, Stefanucci, J.K., **Creem-Regehr, S. H.,** Bodenheimer, B. (2023). Calibrated passability in virtual reality transfer to augmented reality. In *ACM Transactions on Applied Perception, 20(4), 1-16.*

90. Zhao, Y.*, Stefanucci, J.K., **Creem-Regehr, S.H**., & Bodenheimer, B. (2023). Evaluating augmented reality landmark cues and frame of reference displays with virtual reality. *IEEE Transactions on Visualization and Computer Graphics, 29 (5),* 2710-2720.

89. **Creem-Regehr, S. H.,** Stefanucci, J. K., & Bodenheimer, B. (2023). Perceiving Distance in Virtual Reality: Theoretical Insights from Contemporary Technologies. *Philosophical Transactions of the Royal Society B, 378*(1869), 20210456. https://doi.org/10.1098/rstb.2021.0456

88. Linton, P., Morgan, M. J., Read, J. C., Vishwanath, D., **Creem-Regehr, S. H**., & Domini, F. (2023). New approaches to 3D vision. *Philosophical Transactions of the Royal Society B*, *378*(1869), 20210443. https://doi.org/10.1098/rstb.2021.0443

87. Colonna, A. L., Robbins, R., Stefanucci, J., **Creem-Regehr, S.,** Patterson, B., Engel, B. T., ... & Nirula, R. (2022). Trauma bay virtual reality—A game changer for ATLS instruction and assessment. *Journal of Trauma and Acute Care Surgery*, *93*(3), 353-359.

86. Fernberg, P.*, Tighe, E.*, Saxon, M.*, Spencer, C.*, Johnson, S.*, Stefanucci, J., **Creem-Regehr, S. H.**, & Chamberlain, B. (2022). Measuring Perception of Urban Design Elements in Virtual Environments Using Eye Tracking: Benefits and Challenges. *Journal of Digital Landscape Architecture*, *2022*, 463-470.

85. Stefanucci, J.K., Brickler, D., Finney, H.C.*, Wilson, E.*, Drew, T., & **Creem-Regehr, S.H.** (2022). Effects of simulated augmented reality cueing in a virtual navigation task. *Frontiers in Virtual Reality*, Sec. Virtual Reality and Human Behaviour. Doi:10.3389/fvir.2022.971310.

84. Ruginski, I. T., Giudice, N., **Creem-Regehr, S. H**., & Ishikawa, T. (2022). Designing mobile spatial navigation systems from the user's perspective: An interdisciplinary review. *Spatial Cognition and Computation 22(1-2),* 1-29.

83. Whitaker, M. M.*, Hansen, R. C.*, **Creem-Regehr, S. H.,** & Stefanucci, J. K. (2022). The relationship between space and time perception: A registered replication of Casasanto and Boroditsky (2008). *Attention, Perception, & Psychophysics*, 1-5.

82. Schug, M., Barhorst-Cates, E.M., Stefanucci, J.K., **Creem-Regehr, S.H**., Olsen, A.P.L., & Cashdan, E. (2022). Childhood experience reduced gender differences in spatial abilities: A cross-cultural study Predicts Performance on a Spatial Task in Two Societies. *Cognitive Science, 46*(2), e13096.

81. Adams, H.*, Stefanuuci, J.K., **Creem-Regehr, S. H.,** Pointon, G.*, Thompson, W. , & Bodenheimer, B. (2022). Shedding light on cast shadows--An investigation of perceived ground contact in AR and VR. *IEEE Transactions on Visualization and Computer Graphics, 28(12), 4624-2639.* doi: 10.1109/TVCG.2021.3097978

80. Thompson, W.B., Shakespeare, R.A, Liu, S., **Creem-Regehr, S.H.,** Kersten, D.J., & Legge, G.E. (2022). Evaluating the Visibility of Architectural Features for People with Low Vision –A Quantitative Approach. *LEUKOS, 18*(2), 154-172.

79. DeCouto, B.S.*, Williams, A.M., Lohse, K.R., **Creem-Regehr, S. H**., Strayer, D.L., & Fino, P.C. (2021). Anxiety does not always affect balance: the predominating role of cognitive engagement in a video gaming task. *Experimental Brain Research*, *239*(6), 2001-2014. https://doi.org/10.1007/s00221-021-06104-w.

78. Barhorst-Cates, E*., Meneghetti, C., Zhao, Y., Pazzaglia, F. & **Creem-Regehr, S. H.** (2021). Effects of home environment structure on navigation preference and performance: A comparison in Veneto, Italy and Utah, USA. *Journal of Environmental Psychology, 74,* 101580.

77. Gagnon, H. C.*, Zhao, Y.*, Richardson, M.*, Pointon, G.*, Stefanucci, J.K, **Creem-Regehr, S. H.,** & Bodenheimer, B. (2021). Gap affordance judgments in mixed reality: Testing the role of display weight and field of view. *Frontiers in Virtual Reality, 2,* 22.

76. Gagnon, H. C.*, Rosales, C. S.*, Mileris, R.*, Stefanucci, J.K., **Creem-Regehr, S.H.,** & Bodenheimer, B. (2021). Estimating distances in action space in Augmented Reality. *ACM Transactions on Applied Perception, 18(2),* 1-16.

75**. Creem-Regehr, S. H.,** Barhorst-Cates, E.M.*, Tarampi, M. R., Rand, K. M. & Legge, G. (2021). How can basic research on spatial cognition enhance the visual accessibility of architecture for people with low vision? *Cognitive Research: Principles and Implications, 6(1),* 1-18.

74. Barhorst-Cates, E.M.*, Stoker, J.*, Stefanucci, J.K., & **Creem-Regehr, S. H.** (2021). Using Virtual Reality to assess dynamic self-motion and landmark cues for spatial updating in children and adults. *Memory & Cognition,* 49 (3), 572-585.

73. Barhorst-Cates, E. M.*, **Creem-Regehr, S. H.,** Stefanucci, J.K., Saccomano, T., & Gardner, J., & Wright, C. (2020). Draw a map of your neighborhood: Allocentric spatial representations are related to less frame dependency in 9-10 year old children. *Perception*, *49 (11),* 1200-1212.

72. Barhorst-Cates, E.M.*, Stefanucci, J.K., & **Creem-Regehr, S. H**. (2020). A comparison of virtual locomotion methods in movement experts and non-experts: Testing the contributions of body-based and visual translation for spatial updating. *Experimental Brain Research, 238 (9),* 1911-1923.

71. Barhorst-Cates, E. M.*, Rand, K. M., & **Creem-Regehr, S. H**. (2020). Does active learning benefit spatial memory during navigation with restricted peripheral field? *Attention, Perception, & Psychophysics,* 82, 3033–3047.

70. **Creem-Regehr, S. H.,** Gill, D.*, Pointon, G. D.*, Bodenheimer, R.E., & Stefanucci, J. K. (2019) Mind the Gap: Gap Affordance Judgments of Children, Teens, and Adults in an Immersive Virtual Environment. *Frontiers in Robotics and AI: Virtual Environments, 6, 96,* 1-14.

69. Barhorst-Cates, E. M.*, Rand, K. M., & **Creem-Regehr, S. H**. (2019). Navigating with peripheral field loss in a museum: Learning impairments due to environmental complexity. *Cognitive Research: Principles and Implications, 4*(1), 1-10.

68. Padilla, L.M.*, **Creem-Regehr, S.H.,** & Thompson, W.B. (2019). The powerful influence of marks: Visual and knowledge-driven processing in hurricane track displays. *Journal of Experimental Psychology: Applied, 26 (1),* 1–15.

67. Padilla, L.M.*, Castro, S.*, Ruginski, I.*, & **Creem-Regehr, S. H.** (2019). Toward objective evaluation of working memory in visualizations: A case study using pupillometry and a dual-task paradigm. *IEEE Transactions on Visualization and Computer Graphics,* (1), 332-342

66. Ruginski, I.*, **Creem-Regehr, S. H.,** Stefanucci, J. K., & Cashdan, E. (2019). GPS use negatively affects visual environmental learning through spatial transformation abilities. *Journal of Environmental Psychology, 64*, 12-20.

65. Quinan, P.S.*, Padilla, L.M.*, **Creem-Regehr, S. H**. & Meyer, M. (2019). Examining implicit discretization in spectral schemes. *Computer Graphics Forum*, 38(3), 363-374.

64. Thomas, B.*, Pointon, G.*, Gill, D.* & **Creem-Regehr, S. H**. (2019). What perceivers know about their own affordance perception: Post-hoc evaluations of perceptual process do not relate to accuracy. *American Journal of Psychology, 132*(2), 161-177.

63. Rand, K.M., Barhorst-Cates, E.M.*, Kiris, E.*, Thompson, W.B., & **Creem-Regehr, S.H.** (2019). Going the distance and beyond: Simulated low vision increases perception of distance traveled during locomotion. *Psychological Research, 83 (7),* 1349-1362.

62. Lui, L.*, Padilla, L. M.*, **Creem-Regehr, S. H**., & House, D. (2018). Visualizing uncertain tropical cyclone predictions using representative samples from ensembles of forecast tracks. *IEEE Transactions on Visualization and Computer Graphics, 25 (1), 882-891.*

61. Gagnon, K. T.*, Thomas, B., Munion, A.*, **Creem-Regehr, S. H.,** & Cashdan, E., & Stefanucci, J. K. (2018). Not all who wander are lost: Characterizing sex differences in spatial exploration and their relationship to navigation ability. *Cognition, 180,* 108-117.

60. Padilla, L. M.*, **Creem-Regehr, S. H**., Hegarty, M., & Stefanucci, J. K. (2018). Decision Making with Visualizations: A Selective Review. *Cognitive Research: Principles and Implications, 3:29.*

59. Adams, A.*, Narasimham, G., Rieser, J., **Creem-Regehr, S. H.,** Stefanucci, J. K, Bodenheimer, R. E. (2018). Locomotive Recalibration and Prism Adaptation of Children and Teens in Immersive Virtual Environments. *IEEE Transactions on Visualization and Computer Graphics, 24 (4),* 1408-1417.

58. Padilla, L. M.*, Ruginski, I. T.* & **Creem-Regehr, S. H.** (2017). Effects of Ensemble and Summary Displays on Interpretations of Geospatial Uncertainty Data. *Cognitive Research: Principles and Implications, 2: 40.*

57. Barhorst-Cates, E.M.*, Rand, K. M., **Creem-Regehr, S. H.** (2017). Let me be your guide: Physical guidance Improves spatial learning for older adults with simulated low vision. *Experimental Brain Research,* 235 (11), 3307-3317.

56. Lui, L.* Boone, A.*, Ruginski, I.*, Padilla, L.*, Hegarty, M., **Creem-Regehr, S**., Thompson, W., Yuksel, C. & House, D. H. (2017). Uncertainty visualization by representative sampling from prediction ensembles. *IEEE Transactions on Visualization and Computer Graphics,* 23 (9), 2165-2178.

55. Padilla, L.M.*, Quinan, P.S.*, Meyer, M. & **Creem-Regehr, S. H.** (2017). Evaluating the impact of binning 2D scalar fields. *IEEE Transactions on Visualization and Computer Graphics, 23*(1), 431-440.

54. Padilla, L. M.*, **Creem-Regehr, S. H.,** Stefanucci, J. K., & Cashdan, E. (2017). Sex differences in virtual navigation influenced by scale and navigation experience. *Psychonomic Bulletin & Review, 24, 582-590.*

53. Barhorst-Cates, E.M.*, Rand, K.M., & **Creem-Regehr, S. H.** (2016). The effects of restricted peripheral field of view on spatial learning while navigating. *PLoS One* (10), e0163785

52. Ruginski, I. T.*, Boone, A. P.*, Padilla, L. M.*, Liu, L.*, Hedari, N.*, Kramer, H. S., Hegarty, M. House, D. Thompson, W. B., & **Creem-Regehr, S. H.** (2016). Non-expert interpretations of hurricane forecast uncertainty visualizations. *Spatial Cognition & Computation: An Interdisciplinary Journal.* Special Issue: Visually-supported spatial reasoning with uncertainty*, 16(2), 154-172.*

51. Gagnon, K.T.*, Cashdan, E., Stefanucci, J. K., & **Creem-Regehr, S. H.** (2016). Sex differences in exploration and the relationship to harm avoidance. *Human Nature, 27(1), 82-97.*

50. Jun, E.*, Stefanucci, J. K., **Creem-Regehr, S. H.,** Geuss, M. N., & Thompson, W. B. (2015). Big Foot: Using the size of a virtual foot to scale gap width. *ACM Transactions on Applied Perception, 12(4), Article 16*. DOI=http://dx.doi.org/10.1145/2811266

49. Gagnon, K. T.*, Geuss, M. N.*, Stefanucci, J. K., Baucom, B., & **Creem-Regehr, S. H**. (2015). The influence of body size and social context on action judgments for self and others. *Journal of Experimental Psychology: Human Perception and Performance, 41,* 1385-1395.

48. Geuss, M. N., Stefanucci, J. K., **Creem-Regehr, S. H.,** Thompson, W. B., & Mohler, B. J. (2015). Effect of display technology on perceived scale of space. *Human Factors, 57,* 1235-1247.

47. Stefanucci, J. K., **Creem-Regehr, S. H**., Thompson, W. B., Lessard, D. A.*, Geuss, M. N. (2015). Evaluating the accuracy of size perception on screen-based displays: Displayed objects appear smaller than real objects. *Journal of Experimental Psychology: Applied,* 21(3), 215-223.

46. Kunz, B. R., **Creem-Regehr, S. H**., & Thompson, W. B. (2015). Evidence for visual-motor recalibration as a mechanism for improved distance judgments in virtual environments. *Perception, 44,* 446-453.

45. Rand, K. M.*, **Creem-Regehr, S. H**., & Thompson, W. B. (2015). Spatial learning while navigating with severely degraded vision: The role of attention and mobility monitoring. *Journal of Experimental Psychology: Human Perception and Performance, 41,* 649-664.

44. Padilla, L. M.*, Hansen, G.*, Ruginski, I. T.*, Kramer, H. S.*, Thompson, W. B., & **Creem-Regehr, S. H.** (2015). The influence of different graphical displays on non-expert decision making under uncertainty. *Journal of Experimental Psychology: Applied, 21,* 37-46.

43. Creem-Regehr, S. H., Payne, B.*, & Rand, K. M.* & Hansen, G.* (2014). Scaling space with the mirror illusion: The influence of body plasticity on perceived affordances. *Psychonomic Bulletin & Review, 21 (2),* 398-405.

42. **Creem-Regehr, S. H**., Gagnon, K. T.*, Geuss, M. N.*, & Stefanucci, J. K. (2013). Relating spatial perspective taking to the perception of others' affordances: Providing a foundation for predicting the future behavior of others. *Frontiers in Human Neuroscience.* 7:596. Doi: 10.3389/fnhum.2013.00596

41. Kunz, B. R.*, **Creem-Regehr, S. H.,** & Thompson, W. B. (2013). Does perceptual-motor calibration generalize across two forms of locomotion? Investigations of walking and wheelchairs. *PLoS One.* 8(2): e54446. doi:10.1371/journal.pone.0054446

40. Johnson, C. L., Semple, I. L.*, **Creem-Regehr, S. H. (2013).** The effects of scaling cues and interactivity on a viewer's ability to estimate the size of features. *Journal of Geoscience Education, 61*, 68–80.

39. Geuss, M.*, Stefanucci, J. K., **Creem-Regehr, S. H.,** & Thompson, W. B. (2012). Effect of viewing plane on perceived distances in real and virtual environments. *Journal of Experimental Psychology: Human Perception and Performance, 38(5),* 1242-1253.

38. Ziemek, T.*, **Creem-Regehr, S.H**., Thompson, W.B. & Whitaker, R. (2012). Evaluating the effectiveness of orientation indicators with an awareness of individual differences. *ACM Transactions on Applied Perception,* 9(2):7:1-7:23.

37. Rand, K. M.*, Tarampi, M. R.*, **Creem-Regehr, S. H**. & Thompson, W. B. (2012). The influence of object ground contact on perception of distance and size under severely degraded vision. *Seeing and Perceiving, 5(5),* 425-447.

36. Rand, K. M.*, Tarampi, M. R.*, **Creem-Regehr, S. H.,** & Thompson, W. B. (2011). The importance of a visual horizon for distance judgments under severely degraded vision. *Perception, 40,* 143-154.

35. Kunz, B.R.*, **Creem-Regehr, S.H.,** & Thompson, W.B. (2010). Visual capture influences body-based indications of visual extent. *Experimental Brain Research, 207(3-4),* 259-268.

34. **Creem-Regehr, S. H.** & Kunz, B. R.* (2010). Perception and Action. *Wiley Interdisciplinary Reviews: Cognitive Science, 1(6),* 800-810.

33. Mohler, B.J.*, **Creem-Regehr, S.H.,** Thompson, W.B., & Bulthoff, H.B. (2010). The effect of viewing a self-avatar on distance judgments in an HMD-based virtual environment. *Presence: Teleoperators and Virtual Environments, 19(3),* 230-242.

32. Tarampi, M.*, **Creem-Regehr, S.H**., & Thompson, W.B. (2010). Intact spatial updating with severely degraded vision. *Attention, Perception & Psychophysics, 72,* 23-27.

31. **Creem-Regehr, S. H. (2009).** Sensory-motor and cognitive functions of the human posterior parietal cortex involved in manual actions. *Neurobiology of Learning and Memory, 91,* 166-171.

30. Kuhl, S. A.*, Thompson, W. B. & **Creem-Regehr, S. H.** (2009). HMD calibration and its effects on distance judgments. *ACM Transactions on Applied Perception,* 6(3), 19:1-20.

29. Kunz, B. R.*, **Creem-Regehr, S. H**., & Thompson, W. B. (2009). Evidence for motor simulation in imagined locomotion. *Journal of Experimental Psychology: Human Perception and Performance, 35,* 1458-1471.

28. Kunz, B. R.*, Wouters, L.*, Smith, D. G.*, Thompson, W. B., & **Creem-Regehr, S. H**. (2009). Revisiting the effects of quality of graphics on distance judgments in virtual environments: A comparison of verbal reports and blind walking. *Attention, Perception & Psychophysics, 71,* 1284-1293.

27. Willemsen, P., Colton, M. B., **Creem-Regehr, S. H**., & Thompson, W.B. (2009). The effects of head-mounted display mechanics on distance judgments in virtual environments. *ACM Transactions on Applied Perception*, 6(2), 8:1-14.

26. Kuhl, S. A.*, **Creem-Regehr, S. H**., & Thompson, W. B. (2008). Recalibration of rotational locomotion in immersive virtual environments. *ACM Transactions on Applied Perception*, 5(3), 17:1-11.

25. Willemsen, P., Gooch, A. A., Thompson, W. B., & **Creem-Regehr, S. H.** (2008). Effects of stereo viewing conditions on distance perception in virtual environments. *Presence: Teleoperators and Virtual Environments, 17(1),* 91-101.

24. **Creem-Regehr, S. H.,** Dilda, V.*, Vicchrilli, A.*, Federer, F.*, & Lee, J. N. (2007). The influence of complex action knowledge on representations of novel graspable objects: Evidence from fMRI. *Journal of the International Neuropsychological Society, 13,* 1009-1020.

23. **Creem-Regehr, S. H**., Neil, J. A.*, & Yeh, H. J.* (2007). Neural correlates of two imagined egocentric spatial transformations. *Neuroimage, 35,* 916-927.

22. Thompson, W. B., Dilda, V.*, & **Creem-Regehr, S. H.** (2007). Absolute distance perception to locations off the ground plane. *Perception, 36,* 1559-1571.

21. Mohler, B. J.*, Thompson, W. B., **Creem-Regehr, S. H.,** Willemsen, P., Pick, Jr., H. L., & Rieser, J. J. (2007). Calibration of locomotion due to visual motion in a treadmill-based virtual environment. *ACM Transactions on Applied Perception, 4(1),* 1-15.

20. Mohler, B. J.*, Thompson, W. B., **Creem-Regehr, S. H.,** Pick, H. L., & Warren, W. H. (2007). Visual flow influences gait transition speed and preferred walking speed. *Experimental Brain Research, 181,* 221-228.

19. Marchand, W. R., Lee, J. N., Thatcher, G.W., Jensen, C., Stewart, D., Dilda, V.*, Thatcher, J., & **Creem-Regehr, S. H.** (2007). A functional MRI study of a paced motor activation task to evaluate frontal-subcortical circuit function in bipolar depression. *Psychiatry Research: Neuroimaging, 155,* 221-230.

18. Hedges, D. W., Thatcher, G. W., Bennett, P. J., Sood, S., Paulson, D., **Creem-Regehr, S. H**., Brown, B., Allen, S., Johnson, H., & Bigler, E. (2007). Brain integrity and cerebral atrophy in Vietnam combat veterans with and without posttraumatic stress disorder. *Neurocase, 13,* 402-410.

17. **Creem-Regehr, S. H.,** Willemsen, P., Gooch, A. A., & Thompson, W. B. (2005). The influence of restricted viewing conditions on egocentric distance perception: Implications for real and virtual environments. *Perception*, 34, 191–204.

16. **Creem-Regehr, S. H.** & Lee, J. N. (2005). Neural representations of graspable objects: Are tools special? *Cognitive Brain Research,* 22, 457–469.

15. Sahm, C. S.*, **Creem-Regehr, S. H.,** Thompson, W. B., & Willemsen, P. (2005). Throwing versus walking as indicators of distance perception in real and virtual environments. *ACM Transactions on Applied Perception, 2,* 35–45.

14. **Creem-Regehr, S. H.,** Gooch, A. A., Sahm, C. S.*, & Thompson, W. B. (2004). Perceiving virtual geographical slant: Action influences perception. *Journal of Experimental Psychology: Human Perception and Performance, 30,* 811–821.

13. Thompson, W. B., Willemsen, P., Gooch, A. A., **Creem-Regehr, S. H**., Loomis, J. M., & Beall, A. C. (2004). Does the quality of the computer graphics matter when judging distance in visually immersive environments? *Presence: Teleoperators and Virtual Environments, 13,* 560–571.

12. Wraga, M., **Creem-Regehr, S. H.,** & Proffitt, D. R. (2004). Spatial updating of virtual displays during self- and display-rotation. *Memory & Cognition*, *32*, 399–415.

11. **Creem-Regehr, S. H. (2003).** Updating space during imagined self- and object-translations. *Memory & Cognition, 31,* 941–952.

10. Hu, H. H.*, **Creem-Regehr, S. H**., Gooch, A. A., & Thompson, W. B. (2002). Visual cues for perceiving distances from objects to surfaces*. Presence: Teleoperators and Virtual Environments, 11,* 652–664.

9. **Creem, S. H.,** Downs, T. H., Wraga, M., Harrington, G., Proffitt, D. R., & Downs, J. H. (2001). An fMRI study of imagined self-rotation. *Cognitive, Affective & Behavioral Neuroscience, 1,* 239–249.

8. **Creem, S. H.,** Wraga, M., & Proffitt, D. R. (2001). Imagining physically impossible transformations: Geometry is more important than gravity. *Cognition, 81,* 41–64.

7. **Creem, S. H.,** & Proffitt, D. R. (2001). Defining the cortical visual systems: What, where, and how. *Acta Psychologica, 107,* 43–63.

6. **Creem, S. H.,** & Proffitt, D. R. (2001). Grasping objects by their handles: A necessary interaction between cognition and action*. Journal of Experimental Psychology: Human Perception and Performance, 1,* 218–228.

5. Proffitt, D. R., **Creem, S. H.,** & Zosh, W. D. (2001). Seeing mountains in molehills: Geographical slant perception. *Psychological Science, 12,* 418–423.

4. Wraga, M., **Creem, S. H.,** & Proffitt, D. R. (2000). Perception-action dissociations of a walkable Muller-Lyer configuration*. Psychological Science, 11,* 239–243.

3. Wraga, M., **Creem, S. H.,** & Proffitt, D. R. (2000). Updating displays after imagined object- and viewer-rotations. *Journal of Experimental Psychology: Learning, Memory and Cognition*, *26,*151–168.

2. Wraga, M., **Creem, S. H.,** & Proffitt, D. R. (1999). The influence of spatial reference frames on imagined object- and viewer rotations. *Acta Psychologica, 102,* 247–264.

1. **Creem, S. H.** & Proffitt, D. R. (1998). Two memories for geographical slant: Separation and interdependence of action and awareness. *Psychonomic Bulletin & Review, 5*, 22–36.

Book

1. Thompson, W. B., Fleming, R. W., **Creem-Regehr, S. H.,** & Stefanucci, J. K. (2011). *Visual Perception from a Computer Science Perspective*. CRC Press.

Book Chapters

7. **Creem-Regehr, S.H.,** Kelly, J. W., Bodenheimer, B., & Stefanucci, J.K. (2024). Virtual Reality as a Tool to Understand Spatial Navigation. Encyclopedia of the Human Brain, 2nd Edition. Reference Module in Neuroscience and Biobehavioral Psychology, https://doi.org/10.1016/B978-0-12-820480-1.00011-5

6. **Creem-Regehr, S. H.,** Stefanucci, J. K., & Thompson, W. B. (2015). Perceiving Scale in Virtual Environments: How theory and application have mutually informed the role of body-based perception. (pp. 195-224). In B. Ross (Ed.). *The Psychology of Learning and Motivation*, Vol 63. Elsevier.

5. Wright, W. G., **Creem-Regehr, S. H.,** Warren, W. H., Anson, E., Jeka, J., Keshner, E. A. (2014). Sensorimotor Recalibration in Virtual Environments (pp. 71-94). In P. L. Weiss, E. A. Keshner, and M. Levin, (Eds.). *Virtual Reality for Physical and Motor Rehabilitation.* New York: Springer.

4. Kesner, R. & **Creem-Regehr, S. H**. (2012). Parietal contributions to spatial cognition. In D. Waller and L. Nadel (Eds.). *Handbook of Spatial Cognition*. Washington DC: APA.

3. **Creem-Regehr, S. H.** (2010). Body mapping and spatial representation (pp. 422-438). In F. Dolins and R. Mitchell (Eds.) *Spatial Cognition, Spatial Perception.* Cambridge University Press.

2. **Creem-Regehr, S. H.** (2004). Remembering spatial locations: The role of physical movement in egocentric updating (pp. 163–189). In G. Allen (Ed.). *Human Spatial Memory: Remembering Where.* Lawrence Erlbaum Associates, Inc.

1. **Creem, S. H**. & Proffitt, D. R. (1999). Separate memories for visual guidance and explicit awareness: The roles of time and place. In B. H. Challis and B. N. Velichkovsky (Eds.). *Stratification of Consciousness and Cognition* (pp. 73–94). John Benjamins Publishing.

Book Reviews, Encyclopedia Entries, and Editorials

7. **Creem-Regehr, S. H.** (2019). Perception of Space in Virtual and Augmented Reality (Invited Talk). In *14th International Conference on Spatial Information Theory (COSIT 2019)*. Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik.

6. Enns, J. T., Becker, S. I., Brockmole, J., Castelhano, M., **Creem-Regehr, S**., Gray, R., ... & Woodman, G. (2017). Linking contemporary research to the classics: Celebrating 125 years at APA. *Journal of Experimental Psychology. Human Perception and Performance*, *43*(10), 1695-1700.

5. Hamilton, A. F. C., Kessler, K., & **Creem-Regehr, S. H.** (2014). Perspective taking: Building a neurocognitive framework for integrating the "social" and the "spatial". *Frontiers in Neuroscience*, *8*, 403.

4. **Creem-Regehr, S.H**. & Myszkowski, K. (2009). Guest Editorial. *ACM Transactions on Applied Perception*, 6(3), 13: 1-2.

3. **Creem-Regehr, S. H**. (2008). Spatial Cognition. In M. D. Binder, N. Hirokawa, and U. Windhorst (Eds.). *Encyclopedia of Neuroscience* (pp.3796-3799). Berlin: Springer

2. **Creem-Regehr, S. H**. (2005). Perception *by* action versus perception *for* action. Review of Perception in Action by Alva Noë, 2004, MIT press, *Trends in Cognitive Sciences, 510-511*.

1. **Creem-Regehr, S. H**. (2004). Out of mind keeps cognition in mind. Review of Out of Mind: Varieties of unconscious processes*.* Edited by Beatrice de Gelder, Edward H. F. de Haan, & Charles A. Heywood*. Cortex, 40,* 739–742.

Published Conference Proceedings (peer-reviewed papers)

41. McCracken, M., Finney, H., Yang, S., Bodenheimer, B., **Creem-Regehr, S.H**., & Stefanucci, J.K. (2024, October). Big Feet for Little People: Scaling Gap Affordance Judgments of Children and Adults with Virtual Feet. *In 2024 IEEE International Symposium on Mixed and Augmented Reality (ISMAR).*

40. Chakraborty, S., Finney, H., Gagnon, H., **Creem-Regehr, S.,** Stefanucci, J., & Bodenheimer, B. (2024, August). Inter-Pupillary Distance Mismatch Does Not Affect Distance Perception in Action Space. In *ACM Symposium on Applied Perception 2024* (pp. 1-9).

39. Whitaker, M., Creem-Regehr, S.H., & Bodenheimer, B. (2024, July). Bayesian Statistics: A Practical Introduction for Computer Graphics. *Course presented at SIGGRAPH 2024.*

38. Gagnon, H.C, Finney, H., Stefanucci, J.K., Bodenheimer, B., & **Creem-Regehr, S.H.** (2024, March). Reaching between worlds: Calibration and transfer of perceived affordances from virtual to real environments. In *2024 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*

37. Bodenheimer, B., Adams, H., Whitaker, M., Stefanucci, J.K., & **Creem-Regehr, S.H**. (2023, August). Perceiving absolute distance in Augmented Reality displays with realistic and non-realistic shadows. In *ACM Symposium on Applied Perception* (pp. 1-9).

36. **Creem-Regehr, S. H.,** Stefanucci, J. K., & Bodenheimer, B. (2022, October). Perceiving Affordances for Passing Through Apertures: A Discussion of Factors Influencing Replication Across Extended Reality. In *2022 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 274-275). IEEE.

35. Shayman, C. S.*, Stefanucci, J. K., Fino, P. C., & **Creem-Regehr, S. H.** (2022, October). Multisensory Cue Combination During Navigation: Lessons Learned from Replication in Real and Virtual Environments. In *2022 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 276-277). IEEE.

34. Chamberlain, B., Fernberg, P.*, Evans, D.*, Johnson, S.*, Spencer, C.*, **Creem-Regehr, S. H.,** & Stefanucci, J. K. (2022, October). Rapidly Generating Realistic Virtual Environment Contexts. In *2022 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 212-215). IEEE.

33. Adams, H.*, Stefanucci, J., **Creem-Regehr, S.,** & Bodenheimer, B. (2022, March). Depth perception in augmented reality: The effects of display, shadow, and position. In *2022 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)* (pp. 792-801). IEEE.

32. Stefanucci, J. K., **Creem-Regehr, S.,** & Bodenheimer, B. (2021, October). Comparing Distance Judgments in Real and Augmented Reality. In *2021 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 82-86). IEEE.

31. Chakraborty, S., Stefanucci, J., Creem-Regehr, S., & Bodenheimer, B. (2021, October). Distance estimation with social distancing: A mobile augmented reality study. In *2021 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 87-91). IEEE.

30. Chakraborty, S., Stefanucci, J.K., Creem-Regehr, S. and Bodenheimer, B. (2021). Distance Estimation with Mobile Augmented Reality in Action Space: Effects of Animated Cues, *2021 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, Lisbon, Portugal, 2021, pp. 144-147, doi: 10.1109/VRW52623.2021.00034.

29. Zhao, Y.*, Stefanucci, J.K., **Creem-Regehr, S.H.,** & Bodenheimer, B. (2021). The perception of affordances in mobile augmented reality. In *ACM Symposium on Applied Perception*, 2021.

28. Gagnon, H.*, **Creem-Regehr, S. H.,** & Stefanucci, J. K. (2021). Virtual Room Re-Creation: A new measure of room size perception. In *ACM Symposium on Applied Perception*, 2021.

27. Gagnon, H.C., Rohovit, T., Finney, H., Zhao, Y., Franchak, J.M., Stefanucci, J.K., Bodenheimer, B., **Creem-Regehr, S.H.** (2021). The Effect of Feedback on Estimates of Reaching Ability in Virtual Reality, *2021 IEEE Virtual Reality and 3D User Interfaces (VR)*, Lisboa, Portugal, 2021, pp. 798-806, doi: 10.1109/VR50410.2021.00107

26. Gagnon, H.*, Buck.*, L., Smith, T.*, Narasimham, G., Stefanucci, J., **Creem-Regehr, S. H.,** Bodenheimer, B. (2020, September). Far distance perception in mixed reality. In *ACM Symposium on Applied Perception*, 2020.

25. Liu, J. M.*, Narasimham, G., Stefanucci, J. K., **Creem-Regehr, S.,** & Bodenheimer, B. (2020, March). Distance Perception in Modern Mobile Augmented Reality. In *2020 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)* (pp. 196-200). IEEE.

24. Gagnon, H.*, Na, D., Heiner, K., Stefanucci, J., **Creem-Regehr, S**., Bodenheimer, B. (2020, March). The role of viewing distance and feedback on affordance judgments in augmented reality. *In Proceedings of the 2020 IEEE Conference on Virtual Reality and 3D User Interfaces*, 922-929.

23. Thaler, A.*, Pujades, S., Stefanucci, J. K., **Creem-Regehr, S. H**., Tesch, J., Black, M. J., & Mohler, B. J. (2019, September). The Influence of Visual Perspective on Body Size Estimation in Immersive Virtual Reality. In *ACM Symposium on Applied Perception* 2019 (pp. 1-12).

22. Wu, H.*, Adams, H.*, Pointon, G.*, Stefanucci, J., **Creem-Regehr, S.,** & Bodenheimer, B. (2019, March). Danger from the Deep: A Gap Affordance Study in Augmented Reality. In *2019 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)* (pp. 1775-1779). IEEE.

21. Rosales, C. S.*, Pointon, G.*, Adams, H.*, Stefanucci, J., **Creem-Regehr, S.,** Thompson, W. B., & Bodenheimer, B. (2019, March). Distance Judgments to On-and Off-Ground Objects in Augmented Reality. In *2019 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)* (pp. 237-243). IEEE.

20. Pointon, G.*, Thompson, C.*, **Creem-Regehr, S. H**., Stefanucci, J., Joshi, M., Paris, R., & Bodenheimer, B. (2018). Judging action capabilities in augmented reality. In *Proceedings of the 15th ACM SIGGRAPH Symposium on Applied Perception* (p. 6). ACM

19. Ruginski, I.*, Stefanucci, J. K., & **Creem-Regehr, S. H.** (2018). State anxiety influences sex differences in survey spatial learning. In Creem-Regehr, Schoning, Klippel (Eds.) Spatial Cognition XI. Proceedings of the *11th International Conference, Spatial Cognition 2018, Tuebingen, Germany.*

18. Pointon, G., Thompson, C., **Creem-Regehr, S.,** Stefanucci, J., and Bodenheimer, B. (2018). Affordances as a Measure of Perceptual Fidelity in Augmented Reality, *IEEE VR 2018 Workshop on Perceptual and Cognitive Issues in AR (PERCAR)*, Reutlingen, Germany, 5 pages.

17. Bodenheimer, R. E., **Creem-Regehr, S. H.,** Stefanucci, J. K., Shemetova, E., & Thompson, W. B. (2017). Prism Aftereffects for Throwing with a Self-Avatar in an Immersive Virtual Environment. In *Proceedings of the 24th IEEE Virtual Reality Conference, Los Angeles, CA.*

16. **Creem-Regehr, S. H**., Stefanucci, J.K., Thompson, W. B., Nash, N.*, McCardell, M.*(2015). Egocentric distance perception in the Oculus Rift (DK2). In *Proceedings of the 12th ACM SIGGRAPH Symposium on Applied Perception.*

15. Tarampi, M. R.*, Geuss, M. N., Stefanucci, J. K., & **Creem-Regehr, S. H.** (2014). A preliminary study on the role of movement imagery in spatial perception. In *Spatial Cognition IX (pp. 383-395).* Springer International Publishing.

14. Satyavolu, S. K.*, **Creem-Regehr, S. H.,** Stefanucci, J. K., & Thompson, W. B. (2014). Pointing from a third person avatar location: Does dynamic feedback help? In *Proceedings of the 11th ACM SIGGRAPH Symposium on Applied Perception.*

13. Raj, M.*, **Creem-Regehr, S. H.,** Rand, K. M.*, Stefanucci, J. K., & Thompson, W. B. (2012). Kinect based 3D object manipulation on a desktop display. In *Proceedings of the 9th SIGGRAPH Symposium on Applied Perception.*

12. Stefanucci, J. K., Lessard, D.*, Geuss, M.*, **Creem-Regehr, S. H**., & Thompson, W. B. (2012). Evaluating the accuracy of size perception in real and virtual environments. In *Proceedings of the 9th SIGGRAPH Symposium on Applied Perception.*

11. Geuss, M.*, Stefanucci, J. K., **Creem-Regehr, S. H**., & Thompson, W.B. (2010). Can I pass? Using affordances to measure perceived size in virtual environments. In *Proceedings of the 7th SIGGRAPH Symposium on Applied Perception in Graphics and Visualization.*

10. Ziemek, T. R.*, **Creem-Regehr, S. H.,** & Thompson, W. B. (2008). Using mental rotation as a methodology to evaluate shape perception in computer graphics. In *Proceedings of the 5th SIGGRAPH Symposium on Applied Perception in Graphics and Visualization.*

9. Mohler, B. J.*, Bulthoff, H. H., Thompson, W. B., & **Creem-Regehr, S. H.** (2008). A full-body avatar improves distance judgments in virtual environments. In *Proceedings of the 5th SIGGRAPH Symposium on Applied Perception in Graphics and Visualization.*

8. Kuhl, S. A.*, Thompson, W. B. & **Creem-Regehr, S. H.** (2008). HMD calibration and its effects on distance judgments. In *Proceedings of the 5th SIGGRAPH Symposium on Applied Perception in Graphics and Visualization.*

7. Mohler, B. J.*, **Creem-Regehr, S. H.,** & Thompson, W. B. (2006). The influence of feedback on egocentric distance judgments in real and virtual environments. In *Proceedings of the 3rd SIGGRAPH Symposium on Applied Perception in Graphics and Visualization.*

6. Kuhl, S. A.*, Thompson, W. B. & **Creem-Regehr, S. H**. (2006). Minification influences spatial judgments in virtual environments. In *Proceedings of the 3rd SIGGRAPH Symposium on Applied Perception in Graphics and Visualization.*

5. Thompson, W. B., **Creem-Regehr, S. H**., Mohler, B. J.*, & Willemsen, P. (2005). Investigations on the interactions between vision and locomotion using a treadmill virtual environment. In *Proceedings of the SPIE/IS&T Human Vision & Electronic Imaging Conference*, 481–492.

4. Mohler, B. J.*, Thompson, W. B., **Creem-Regehr, S. H.,** Pick, Jr., H. L., Warren, Jr., W., Rieser, J. J. & Willemsen, P. (2004). Visual Motion Influences Locomotion in a Treadmill Virtual Environment. In *Proceedings of the 1st SIGGRAPH Symposium on Applied Perception in Graphics and Visualization,* 19–22.

3. Willemsen, P., Colton, M. B., **Creem-Regehr, S. H.,** & Thompson, W. B. (2004). The Effects of Head-Mounted Display Mechanics on Distance Judgments in Virtual Environments. In *Proceedings of the 1st SIGGRAPH Symposium on Applied Perception in Graphics and Visualization*, 35–38.

2. Kindlmann, G., Reinhard, E., & **Creem, S. H.** (2002). Face-based luminance matching for perceptual colormap generation. In R. Moorhead, M. Gross and K. I. Joy (Eds.), In *Proceedings of IEEE Visualization,* 299–306.

1. **Creem, S. H.,** Wraga, M., & Proffitt, D. R. (1997). The relevance of imagined self-rotations. In M. Schmuckler & J. M. Kennedy (Eds.) *Studies in Perception and Action IV* (pp.35-38). Lawrence Erlbaum Associates, Inc.

Popular Press

Young, E. (2018). Get lost!. *New Scientist*, *240*(3208), 38-42.

Submitted manuscripts

Zhao, Y., Stefanucci, J.K., Creem-Regehr, S.H. & Bodeheimer, B. (2023). Enhancing head-worn augmented reality navigation design with eye tracking. Under revision.

Shayman, C.S., McCracken, M.K., Finney, H.C., Fino, P.C., Stefanucci, J.K, & Creem-Regehr, S.H. (2024). Integration of auditory and self-motion cues in spatial navigation. Under revision.

Shayman, C.S., Hines, P.D., McCracken, M.K., Koff, J., Finney, H.C., Stefanucci, J.K. & Creem-Regehr, S.H. (2024). Test-retest reliability of visual and self-motion cue combination during navigation: Accuracy, variability, and cue weighting. Under revision

Zhao, Y., Gagnon, H.C., Stefanucci, J.K., Creem-Regehr, S.H., & Bodenheimer, B. (2024). A Systematic Review of the Use of Augmented Reality in Pedestrian Navigation. Submitted.

Zhao, Y., Stefanucci, J.K., Creem-Regehr, S.H., & Bodenneimer, B. (2024). Investigation of Augmented Reality Map Integration and Combined Frame of Reference Displays for Navigation. Submitted.

Finney, H., Gagnon, H.C., Creem-Regehr, S.H., Bodenheimer, B., & Stefanucci, J.K. (2024). Children's calibration of reaching estimates in virtual reality. Submitted.

McCracken, M.K., Shayman, C.S., Stefanucci, J.K., & Creem-Regehr, S.H. (2024). A Comparison of the Effects of Older Age on Homing Performance in Real and Virtual Environments. Submitted

In preparation

Tighe, E.E., Stefanucci, J.K., Bodenheimer, B., & Creem-Regehr, S.H. (2024). Examining differences in navigation strategy and performance in children and adults using the dual solutions paradigm.

Whitaker, M.M., Okifuji, A., Creem-Regehr, S.H., & Stefanucci, J.K. (2024). Space and time symmetrically influence one another in perception and are not impacted by chronic pain.

Whitaker, M.M., Finney, H., Elston, J., Epperson, L., Creem-Regehr, S.H., & Stefanucci, J.K. (2024). The perceptual fidelity of reach and grasp affordance judgments in real and virtual environments.

Saxon, M., Creem-Regehr, S.H., & Stefanucci, J.K. (2023). A role for scanning in virtual height perception.

Adams, H., Gagnon, H., Creem-Regehr, S. H., Stefanucci, J.K., & Bodenheimer, B. (2023). Stay in Touch! Shape and Shadow Influence Surface Contact in XR Displays.

Barhorst-Cates, E.M., Ruginski, I.T., Creem-Regehr, S.H., Stefanucci, J.K., Davis, H., Sugiyama, L.S., Herlosky, K.N., Crittenden, A.N., Kramer, K., Cashdan, E. (2023). The MRTX: A chronometric mental rotation task accessible across age and culture.

Cashdan, E., Gagnon, K.T., Stefanucci, J.K., Butner, J. & Creem-Regehr, S. H. (in preparation). Why males and females navigate differently: Risk taking, harm avoidance and sex differences in range size.

INVITED TALKS AND SYMPOSIA (2010-present)

Creem-Regehr, S.H. (2023). *The Influence of Spatial Cues on Navigation with Visual Impairment*. Invited talk presented in Symposium 8: Understanding Mobility in the Visually Impaired: Progress, Pitfalls, and Possibilities. *International Society of Posture & Gait Research 2023*, Brisbane, Australia (hybrid).

Creem-Regehr, S.H. (2023). Perceptual Fidelity in Extended Reality: A Use-Inspired Approach to Spatial Cognition Research. Invited colloquial talk presented at TU Berlin (virtual)

Creem-Regehr, S. H. (2021). *Perception and Action in Virtual and Augmented Reality*. Invited talk for the Royal Society Discussion Meeting, New Approaches to 3D Vision. London, UK (virtual).

Creem-Regehr, S. H. (2019). *Measuring perceptual fidelity in Augmented and Virtual Reality*. Invited Breakout session: Augmented and Virtual Reality Productivity Experiences. Microsoft Research Faculty Summit, Redmond, WA.

Creem-Regehr, S. H. (2019). *Perception of space in Augmented and Virtual Reality.* Invited keynote talk at COSIT 2019, Regensburg, Germany.

Creem-Regehr, S. H. (2019). *Perception and Action in Virtual Spaces: When and why children and adults may differ.* Invited colloquium presented at University of Iowa.

Creem-Regehr, S. H. (2019). *Perception of space and affordances in Augmented and Virtual Reality.* Invited talk presented at NSF Workshop on the Dynamic Interaction of Embodied Human and Machine Intelligence, University of Southern California.

Creem-Regehr, S. H., Barhorst-Cates, E., Meneghetti, C. (2018). *How does home city structure influence navigation preference and performance?* Invited talk presented at iNAV, Montreal, Canada.

Creem-Regehr, S. H., Stefanucci, J.K., Bodenheimer, B. (2018). *Through the children's looking glass: A comparison of children and adult perception and action in virtual environments*. Invited talk presented at Center for Vision Science symposium on AR and VR, Rochester, NY.

Creem-Regehr, S. H. (2017). *Perceiving absolute scale: How theory and application mutually inform each other*. Panel talk presented at the 25th Conference on Object Perception and Memory, Vancouver, Canada.

Creem-Regehr, S. H. (2016). *The influence of body size and social context on perception and action.* Invited talk presented at Université Paris Sud, Orsay, France and the Max Planck Institute for Biological Cybernetics, Tuebingen, Germany.

Creem-Regehr, S. H. (2015). *Embodiment in spatial cognition: How and why visual body representations might influence perception of the spaces around us.* Invited talk presented at Laboratoire Psychologie de la Perception, Université Paris Decartes, Paris, France.

Creem-Regehr, S. H., Padilla, L. M., Stefanucci, J. K., & Cashdan, E. (2015). *Effects of spatial abilities, cue types, and scale on spatial memory in virtual natural landscapes.* Invited talk to be presented at the International Conference on Spatial Cognition (ICSC), Rome, Italy.

Creem-Regehr, S. H. (2014). *Embodiment in spatial cognition: How and why visual body representations might influence perception of the spaces around us.* Invited talk presented at University of Cincinnati CAP seminar series and University of Kansas Mind Lecture Series.

Creem-Regehr, S. H., Gagnon, K. T., Tarampi, M. R., & Stefanucci, J. K. (2012, September). *The influence of spatial cues on instructed and spontaneous spatial perspective taking.* Invited talk presented at the International Conference on Spatial Cognition (ICSC), Rome, Italy.

Creem-Regehr, S. H. (2011, March). *Body-based perception in virtual environments*. Invited talk presented at GE Healthcare, Salt Lake City, UT.

Creem-Regehr, S. H. (2010, September). *Body-based perception in spaces beyond the body.* Invited talk presented at the Max Planck Institute for Biological Cybernetics, Tubingen, Germany.

Creem-Regehr, S.H. (2010, May). *Embodiment in perception: What have we learned from virtual reality?* Invited talk presented at the Association for Psychological Science 22nd Annual Convention, Boston, MA.

Creem-Regehr, S.H. (2010, January). *Embodiment in perception: What have we learned from virtual reality?* Invited talk presented at Cognition and Cognitive Neuroscience colloquium, Vanderbilt University.

PROFESSIONAL ACTIVITIES

Editorial Service

Editor-in-chief, *Cognitive Research: Principles and Implications*, Jan 2022—present

Associate Editor

Quarterly Journal of Experimental Psychology, Jan 2020 – Dec 2021
Journal of Experimental Psychology: Human Perception and Performance, 2014 – 2017
Psychonomic Bulletin & Review, Jan 2010 – Dec 2013

Consulting Editor

Cognitive Research: Principles and Implications, 2018-2021
Journal of Experimental Psychology: Human Perception and Performance, 2011-2013, 2017-2022
Frontiers in Psychology: Cognition, 2010-present
Perspectives on Psychological Science, 2017-2019
Memory & Cognition, 2009-2016

Guest Editor

The Royal Society Meeting, New Approaches to 3D Vision (2021-2022), Co-organizer and Guest Editor, Philosophical Transactions B, with Paul Linton, Michael Morgan, Jenny Read, Dhanraj Vishwanath, and Fulvio Domino.

Geographic Information, Human-Computer Interaction, and Navigation. Spatial Cognition and Computation Special Issue (2021), Guest editor with Ian Ruginski, Nicholas Giudice, and Toru Ishikawa.

Perspective Taking: building a neurocognitive framework for integrating the "social" and the "spatial", Research Topic in *Frontiers in Human Neuroscience* (2013), Topic Editor with Klaus Kessler and Antonia Hamilton

Special Issue of ACM Transactions on Applied Perception, 2008 Symposium on Applied Perception in Graphics and Visualization

Program Co-Chair

IEEE VR 2022 Conference Paper Track
Spatial Cognition 2018, September 2018, Tuebingen, Germany
5th Symposium on Applied Perception in Graphics and Visualization, August 2008, Los Angeles, CA.

Program Committees

ACM Symposium on Applied Perception in Graphics and Visualization (APGV and SAP), 2007-2020
International Program Committee for IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR) 2020, 2021
International Program Committee for IEEE International Symposium on Mixed and Augmented Reality (ISMAR) 2021
First International Workshop on Spatial HCI and Geographic-Aware Technology (SPAGAT) 2021

National Science Foundation

National Science Foundation panelist, *Perception, Action, & Cognition*, *CISE: Cyber-Human Computing*
National Science Foundation Site Visit Team member
National Science Foundation ad hoc grant reviewer

Ad-hoc reviewer for the following selected journals:
ACM Transactions on Applied Perception, Acta Psychologica, Child Development, Cognitive Research: Principles and Implication, Cognitive, Behavioral, and Affective Neuroscience, Cognitive Psychology, Cognitive Neuropsychology, Cognition, Experimental Brain Research, Journal of Cognitive Neuroscience, Human Factors, IEEE Transactions on Visualization and Computer Graphics, Journal of Experimental Psychology: Applied, Journal of Experimental Psychology: General, Journal of Experimental Psychology: Human Perception and Performance, Journal of Experimental Psychology: Learning, Memory, and Cognition, Journal of Motor Behavior, Memory & Cognition, Neuroimage, Neuropsychologia, Perception, Perception & Psychophysics, Presence: Teleoperators and Virtual Environments, Psychological Science, Psychonomic Bulletin & Review, Vision Research, Visual Cognition

Professional Memberships
Association for Psychological Science
Psychonomic Society
IEEE Computer Society
Vision Science Society

Departmental Service
Chair, Department of Psychology, 2024-present
Interim Chair, Department of Psychology, 2023-2024
Associate Chair, Department of Psychology, 2018-2022
Member, Executive Committee, 2008-2011, 2013-2015, 2016-2022
Neuroscience Liason, 2016-2018
Director of Graduate Studies and Chair, Graduate Committee, 2011-2015
Area Coordinator, Cognition and Neural Sciences, 2005-2011 (except 2006-2007), 2017-2019
Member, Graduate Committee, 2002-2006, 2010-2015
Member, Personnel Committee, 2007-2008
Chair or Co-Chair, Cognition and Neural Sciences Search Committee, 2004-2005, 2008-2009, 2016-2017
Chair, Research Participation Committee, 2001-2002
Member, Cognition and Neural Sciences Search Committee, 2001-2002, 2018-2019
Member, Ad-Hoc Graduate Recruitment Committee, 2000-2001

University Service
Member, Academic Senate, 2020 - 2022
Member, Presidential Search Committee, 2021
Graduate Council Reviewer, Department of English, 2019
Member, Taskforce on Educational Futures and Student Success, Graduate Student Success working group, 2019-2020
Member, Cognitive Neuro search committee, Dept. of Health, Kinesiology, and Recreation, 2017-2019
Member, Interdisciplinary Teaching Seed Grant review committee, 2008-2010
Co-Organizer, Utah Functional Neuroimaging Core, 2003-2006
Member, MEG/MSI Steering Committee, 2003-2010
Reviewer, Graduate Research Fellowship Committee, 2003-2004, 2013
Internal Site Reviewer, Graduate Council Review, Dept. of Physical Therapy, 2013

COURSES TAUGHT

Advanced Human Cognition, *graduate core course*
Cognitive Psychology, *undergraduate lecture*
Cognitive Neuropsychology, *graduate core course*
Cognitive Neuropsychology, *undergraduate lecture*
CNS Approaches to Research, *graduate methods course*
Embodied Cognition, *graduate seminar*
First-year practicum, *graduate seminar*
Functional Neuroimaging of Cognition, *graduate seminar*
Introduction to Psychology *(perception and cognition sections)*
Neuropsychology of Vision, *undergraduate seminar*
Sensation and Perception, *undergraduate lecture*
Spatial Cognition, *graduate seminar*
Vision Science for Good, *graduate seminar*

STUDENT SUPERVISION

Present Advise or Co-advise

Mirinda Whitaker, 6th year psychology PhD student
Hunter Finney, 5th year computer science PhD student
Emily Tighe, 4th year psychology PhD student
Maggie McCracken, 3rd year psychology PhD student
Ashley Buzard, 3rd year psychology PhD student
Alex Detrich, 2nd year psychology PhD student
Emma Butner, 1st year psychology PhD student
Maisha Orthy, 1st year psychology PhD student

Past Advise or Co-advise

Corey Shayman, neuroscience PhD 2024
Dissertation: The role of auditory landmarks in multisensory cue combination during navigation
Morgan Saxon Lafavers, psychology PhD 2023
Dissertation: Relating Dynamically Perceived Spatial Gist to Event Boundaries and Scene Perception
Current position: Human Factors Engineer: Monterey Technologies
Holly Gagnon, psychology PhD 2023
Dissertation: Reaching Between Worlds: Calibration and Transfer of Perceived Affordances from Virtual to Real Environments
Current position: Postdoctoral Fellow, Vanderbilt Univesity
Grant Pointon, psychology PhD 2021
Dissertation: Visualizing Uncertainty: A novel method to visualize grouped univariate data.
Current position: Data Scientist, Lucid
Erica Barhorst-Cates, psychology PhD 2019
Dissertation: Motor Dependence in Spatial Updating: Individual Differences in Age and Movement Experience
Current position: Human Factors Engineer, Monterey Technologies
Lace Padilla, psychology PhD 2018
Dissertation: Visual-spatial biases in ensemble cognition
Current position: Assistant Professor, Cognitive and Information Sciences, UC Merced

Ian Ruginski, psychology PhD 2018
Dissertation: Mobility for Spatial Cognition and Navigation: Establishing construct validity and testing novel model of individual differences in spatial cognition
Current position: Postdoctoral Fellow, Dept of Geography, University of Zurich
Kyle Gagnon, psychology PhD 2015
Dissertation: Not all those who wander are lost: Characterizing sex differences in spatial exploration and their relationship to navigation ability
Current position: Senior Data Scientist, Unite Us
Kristina Rand, psychology PhD 2014
Dissertation: Spatial learning while navigating with severely degraded vision: the role of attention and risk monitoring
Current position: Assistant Professor, Psychology, University of Utah
Margaret Tarampi, psychology PhD 2013
Dissertation: Use of spatial transformations and reference frames: Individual differences in spatial ability
Current position: Assistant Professor, Psychology, University of Hartford
Benjamin Kunz, psychology PhD 2010
Dissertation: The Influence of recalibration of locomotion on spatial orientation
Current position: Associate Professor, Psychology, University of Dayton
Tina Ziemek, computer science PhD 2010
Dissertation: Evaluating the effectiveness of orientation indicators with an awareness of individual differences
Current position: Assistant Professor, David Eccles School of Business, University of Utah
Scott Kuhl, computer science PhD 2009
Dissertation: The effects of geometric distortions on distance judgments in virtual environments.
Current position: Associate Professor, Computer Science, Michigan Tech University
Betty Mohler, computer science PhD 2007
Dissertation: The effect of feedback within a virtual environment on human distance perception and adaptation
Current position: Principal Research Scientist, Amazon
Valentina Dilda, psychology PhD 2007
Dissertation: The role of the cerebellum on motor imagery tasks involving tools
Current position: Director, Clinical Trial Innovation, Cerevel Therapeutics

Postdoctoral Mentorship
Sam Beech, 2024- present
David Brickler, 2021-2022, Current position: Postdoctoral fellow, Morehouse College
Brandon Thomas, 2016-2018, Current position: Assistant professor, Psychology, University of Wisconsin

Recent Undergraduate Research Supervision
Daniel Smith, Senior Thesis 2008-2009
Eduardo Rubio, SROP 2009
Brook Shell, Senior Thesis 2009-2010
Alda Rivas, Bioscience Summer Undergraduate 2010
Brandon Payne, Senior Thesis 2011-2012
Piper Meisinger, Honors Thesis 2015-2017
Kimberly Sholler, Human Factors 2016-2017
Madalyn Dailey, Human Factors 2016-2017
Mark Lee, Human Factors 2016-2017

Jeremy Donaldson, Human Factors 2017-2018
Serena Yang, UROP, Human Factors 2018-2019
Bradley Keyes, Human Factors, 2018-2019
Jessica Stoker, UROP and Human Factors, 2018-2019
Angela Trolio, Human Factors 2019-2020
Ryan Mileris, Human Factors 2019-2020
Noah Mackey, Human Factors 2021-2022
Phoenix Hines, Honors Thesis 2023-2024
Jenson Koff, UROP, 2023
Misty Myers, UROP, 2023

CONFERENCE PRESENTATIONS AND ABSTRACTS (past 10 years)

Creem-Regehr, S.H., Zhao, Y., Stefanucci, J.K., & Bodenheimer, B. (2023). The influence of augmented reality cues on wayfinding and spatial learning. *Talk presented at the 64th Annual Meeting of the Psychonomic Society.*

McCracken, M.K., Finney, H.C., Creem-Regehr, S.H., & Stefanucci, J.K. (2023). Assessing visual capture of audiovisual distance perception in virtual reality. *Talk presented at the 64th Annual Meeting of the Psychonomic Society.*

Buzard, A.M., Davidson, J.A., Tighe, E., Zhao, Y., Bodenheimer, B., Creem-Regehr, S.H., Stefanucci, J.K. (2023). Evaluating threat cues for the enhancement of safety in virtual navigation. *Poster presented at the 64th Annual Meeting of the Psychonomic Society.*

Tighe, E., Bodenheimer, B., Stefanucci, J.K., & Creem-Regehr, S.H. (2023). Testing navigation differences in children and adults using an online dual solution paradigm. *Poster presented at the 64th Annual Meeting of the Psychonomic Society.*

Shayman, C.S., McCracken, M.K., Finney, H.C., Fino, P.C., Stefanucci, J.K., & Creem-Regehr, S.H. (2023). Relative reliance on auditory and self-motion cues for navigation. *Poster presented at the 64th Annual Meeting of the Psychonomic Society.*

Lafavers, M., Johnson, S., Evans, D., Tighe, E., Spencer, C., Creem-Regehr, S.H., Stefanucci, J.K., & Chamberlain, B. (2023). Gaze behavior while detecting changes in spatial gist in a virtual environment. *Journal of Vision, 23(9):5815. (poster presented at Vision Sciences Society 2023).*

Gagnon, H.C., Finney, H., Bodenheimer, B., Stefanucci, J.K. & Creem-Regehr, S.H. (2022). Calibration of passability judgments in virtual reality transfer to augmented reality. *Poster presented at the 63rd Annual Meeting of the Psychonomic Society.*

Chamberlain, B., Tighe, E., Saxon, M., Fernberg, P., Spencer, C., Johnson, S., Creem-Regehr, S.H., & Stefanucci, J.K. (2022). Detecting spatial gist while locomoting in an immersive virtual environment:

The role of speed of travel and urban design. *Poster presented at the 63rd Annual Meeting of the Psychonomic Society.*

Whitaker, M., Finnery, H.C., Elston, J., Epperson, L., Creem-Regehr, S.H., & Stefanucci, J.K. (2022). The perception fidelity of affordance judgments in real and virtual environments. *Talk presented at the 63rd Annual Meeting of the Psychonomic Society.*

Shayman, C.S., Finney, H.C., Fino, P.C., Stefanucci, J.K., & Creem-Regehr, S.H. (2022). Sensory integration for navigation: Aging and virtual environments. *Talk presented at the 63rd Annual Meeting of the Psychonomic Society.*

Tighe, E., Saxon, M. A., Fernberg, P., Spencer, C. N., Johnson, S. I., Creem-Regehr, S.H., Stefanucci, J.K., Chamberlain, B. (2022). A Spatial Gist Phenomenon While Locomoting in an Immersive Virtual Environment. *Poster presented at the annual meeting of the Vision Sciences Society.*

Saxon, M.A., Creem-Regehr, S.H., Stefanucci, J.K. (2022). Role of Head Movement in Estimating Virtual Heights. *Poster presented at the annual meeting of the Vision Sciences Society.*

Whitaker, M., Okifuji, A., Creem-Regehr, S.H., Stefanucci, J. (2022). The Impact of Fibromyalgia Pain on Space and Time Perception. *Poster presented at the annual meeting of the Vision Sciences Society.*

Konold, C., Geuss, M., Butner, J., Whitaker, M., Murdock, R., Stefanucci, J.K., Creem-Regehr, S.H., Drew, T. (2022). Unintended Consequences of Trying to Help: Augmented Target Recognition Cues Bias Perception. *Poster presented at the annual meeting of the Vision Sciences Society.*

Finney, H.C., Murdock, R., Rohovit, T., Brickler, D., Creem-Regehr, S. H., Stefanucci, J.K. & Drew, T. (2021). Assessing cognitive load while navigating an urban immersive virtual environment. *Poster presented at the 61th Annual Meeting of the Psychonomics Society.*

Gagnon, H.C., Stefanucci, J.K. & Creem-Regehr, S.H. (2021). Development and evaluation of a novel room size perception measure: Virtual room re-creation. *Talk presented at the 61th Annual Meeting of the Psychonomics Society.*

Saxon, M.A., Klemser, B.H., Fernberg, P., Creem-Regehr, S.H., Stefanucci, J.K., & Chamberlain, B. (2021). The effect of landmarks on learning the gist of spaces. *Poster presented at the 61th Annual Meeting of the Psychonomics Society.*

Drew, T. Murdock, R., Butner, J., Creem-Regehr, S.H., & Stefanucci, J.K. (2021). Augmented target recognition: Quantifying the costs and benefits of implementation. *Talk presented at the 61th Annual Meeting of the Psychonomics Society.*

Gagnon, H. C., Na, D., Heiner. K., Stefanucci, J. K., Creem-Regehr, S. H., & Bodenheimer, R. E. (2020, November). The effect of viewing distance and two types of feedback on passing through an augmented reality aperture. *Poster presented at the 60th Annual Meeting of the Psychonomics Society.*

Gagnon, H. C., Na, D., Heiner. K., Stefanucci, J. K., Creem-Regehr, S. H., & Bodenheimer, R. E. (2020, June). Judgments of passing through augmented reality apertures: The role of viewing distance and feedback. *Poster presented at the annual meeting of the Vision Sciences Society.*

Saxon, M.A., Thomas, B., Stefanucci, J. K., & Creem-Regehr, S. H. (2020, June). Investigating Cues for Perspective-Taking in Virtual Reality. *Poster presented at the annual meeting of the Vision Sciences Society.*

Padilla, L.M., Castro, S., Quinan, P.S., Ruginski, I. & Creem-Regehr, S. H. (2019). Toward objective

evaluation of working memory in visualizations: A case study using pupillometry and a dual-task paradigm. Poster presented at the *59th Annual Meeting of the Psychonomics Society,* Montreal, Canada.

Barhorst-Cates, E.M., Creem-Regehr, S.H., & Stefanucci, J. K. (2019). Movement experience and balance affect performance on a virtual triangle completion task. Poster presented at the *59th Annual Meeting of the Psychonomics Society,* Montreal, Canada.

Barhorst-Cates, E.M., Creem-Regehr, S.H., & Stefanucci, J. K. (2019). Developmental differences in optimal locomotion methods for spatial updating in virtual reality. Talk presented at Neuroscience 2019, Chicago, IL.

Pointon, G., Salas, C., Adams, H., Creem-Regehr, S. H., Stefanucci, J.K., Bodenheimer, B., & Thompson, W.B. (2019). Perceived distance to augmented reality images is influenced by ground-contact, Talk presented at *Vision Sciences Society Annual Meeting*. Journal of Vision.

Gagnon, H. C., Barhorst-Cates, E. M., & Creem-Regehr, S. H. (2019). Effects of degraded vision on the use of landmarks in spatial learning. Poster presented at *Vision Sciences Society Annual Meeting*. Journal of Vision.

Saxon, M., Thomas, B. J., Stefanucci, J. K., & Creem-Regehr, S. H. (2019). Does Avatar Presence Facilitate Affordance Judgments from Different Perspectives? Poster presented at Vision Sciences Society Annual Meeting. Journal of Vision.

Pointon, G., Thompson, C., Creem-Regehr, S. H., Stefanucci, J.K., Joshi, M., Paris, R., & Bodenheimer, B. (2018, November). Investigating space perception with affordance judgments in augmented reality. Poster presented at the *58th Annual Meeting of the Psychonomics Society, New Orleans, LA.*

Barhorst-Cates, E.M., Creem-Regehr, S.H., & Stefanucci, J.K. (2018, November). Real and imagined spatial updating in dancers and non-dancers. Poster presented at the *58th Annual Meeting of the Psychonomics Society, New Orleans, LA.*

Gill, D., Geuss, M., Creem-Regehr, S.H., Stefanucci, J.K. (2018, September). Visualization of sociocultural data: Opportunities and challenges with 3D Immersive Virtual Reality. Talk presented at the SC2018 Workshop: Virtual Environments as Geospatial Labs. Tuebingen, Germany.

Creem-Regehr, S. H., Stefanucci, J.K., Bodenheimer, B. (2018, September). How Augmented Reality can change research in spatial cognition. Talk presented at *the SC2018 Workshop: Virtual Environments as Geospatial Labs*. Tuebingen, Germany.

Padilla, L.M., Castro, S., Ruginski, I., Quinan, P.S. & Creem-Regehr, S. H. (2018, September). Evaluating Working Memory Demands in Visualization Decision Making. Poster presented at *Spatial Cognition 2018*, Tuebingen, Germany.

Barhorst-Cates, E.M., Wright, C., Creem-Regehr, S. H., Stefanucci, J.K., & Cashdan, E. (2018, September). Movement and art experience, spatial abilities, and familiar environment representations in 9-10 year olds. Poster presented at *Spatial Cognition 2018*, Tuebingen, Germany.

Barhorst-Cates, E.M., Meneghetti, C., & Creem-Regehr, S. H. (2018, September). Individual differences in navigation style: Effects of home environment structure. Talk presented at *the International Conference on Spatial Cognition, Rome, Italy*.

Nicora, G., Alonso, D., Rand, K., Creem-Regehr, S., & Drew, T. (2018). Exploring the utility of incidental fixations in dynamic real-world visual search through mobile eye tracking. *Journal of Vision*, *18*(10), 650-650.

Ruginski, I. T., Barhorst-Cates, E., Cashdan, E., Creem-Regehr, S. H. & Stefanucci, J. K. (2017, November).

Mobility for Spatial Cognition and Navigation: Developing and Validating a Self-Report Scale to Characterize Travel Patterns. Poster presented at the *57th Annual Meeting of the Psychonomics Society, Vancouver, Canada.*

Gill, D. M., Pointon, G., Creem-Regehr, S. H. & Stefanucci, J. K. (2017, November). A Comparison of Children's and Adults' Judgments of Action Capabilities in Virtual Environments. Poster presented at the *57th Annual Meeting of the Psychonomics Society, Vancouver, Canada*

Pointon, G., Creem-Regehr, S. H. & Stefanucci, J. K. (2017, November). Actor Specific Kinematics and Affordance Judgments for Others. Poster presented at the *57th Annual Meeting of the Psychonomics Society, Vancouver, Canada*

Padilla, L., Ruginski, I. T., Creem-Regehr, S. H., Liu, Le, House, D. H., & Thompson, W. B. (2017, November). Exploring Decision Biases With Ensemble Display Visualizations. Poster presented at the *57th Annual Meeting of the Psychonomics Society, Vancouver, Canada.*

Barhorst-Cates, E., Wright, C., Stefanucci, J. K. , Creem-Regehr, S. H. & Cashdan, E. (2017, November). Examining the Impact of Dance Training on Spatial Abilities in 9-10 Year Olds. Poster presented at the *57th Annual Meeting of the Psychonomics Society, Vancouver, Canada.*

Barhorst-Cates, E., Padilla, L., Schug, M., Creem-Regehr, S. H. & Cashdan, E. , & Stefanucci, J. K. (2017, April). Navigation and Mental Rotation: Examining Effects of Childhood and Life-Long Mobility Experience in the U.S. and Faroe Islands. Talk presented at the Rocky Mountain Psychological Association, Salt Lake City, UT.

Dixon, S., Pointon, G., Padilla, L., Stefanucci, J. K., Creem-Regehr, S. H., Johnstone, A. (2017, April). Development of a New Gaming Questionnaire to Assess the Influence of Game Genre on Spatial Cognitive Abilities in Males and Females. Poster presented at the Rocky Mountain Psychological Association, Salt Lake City, UT.

Meisinger, P. M., Barhorst-Cates, E., & Creem-Regehr, S. H. (2017, April). How Teaching Egocentric and Allocentric Learning Strategies Affect Spatial Learning. Poster presented at the Rocky Mountain Psychological Association, Salt Lake City, UT.

Stefanucci, J. K., Creem-Regehr, S. H., & Cashdan, E. A. (2017, March). *Mobility contributes to sex differences in spatial cognition and navigation.* Poster presented at the 2017 International Conference on Psychological Science, Vienna, Austria.

Geuss, M. N., Creem-Regehr, S. H., & Mohler, B. J. (2016, November). Judging affordances from other viewpoints: A role of perspective taking? Talk presented at the *56th Annual Meeting of the Psychonomics Society, Boston, MA.*

Dixon, L., Padilla, L. M., Stefanucci, J. K., Creem-Regehr, S. H., & Johnstone, A. H. (2016, November). Relating video gaming and spatial cognition in women. Poster presented at the *56th Annual Meeting of the Psychonomics Society, Boston, MA.*

Meisinger, E., Barhorst-Cates, E. M., & Creem-Regehr, S. H. (2016, November). Search strategies during small-scale spatial layout learning with restricted peripheral field. Poster presented at the *56th Annual Meeting of the Psychonomics Society, Boston, MA.*

Creem-Regehr, S. H., Barhorst, E.M., Rand, K.M., & Thompson, W.B. (2016, June). When and why does restricted peripheral field affect spatial learning during navigation? Talk presented at the *European Workshop on Imagery and Cognition (EWIC2016),* Paris, France.

Barhorst, E.M., Rand, K.M., & Creem-Regehr, S. H. (2016, May). Navigation and spatial memory for older adults with simulated low vision. Poster presented at the *16th Annual Meeting of the Vision Sciences Society Meeting*, St. Pete Beach, Florida.

Rand, K. M., Barhorst, E.M. & Thompson, W. B., Creem-Regehr, S. H., (2016, April). Generalizing effects of types of low vision and age on spatial learning while navigating. Talk presented at the *International Meeting of the Psychonomic Society*, Granada, Spain.

Barhorst, E. M., Rand, K. M., & Creem-Regehr, S. H. (2016, April). Does slower walking speed reduce cognitive load while navigating? Poster presented at the *International Meeting of the Psychonomic Society*, Granada, Spain.

Padilla, L., Bergmann, T., & Creem-Regehr (2016, April). Uncertainty in weather forecasting phrasing. Poster presented at the *International Meeting of the Psychonomic Society*, Granada, Spain.

Ruginski, I., Stefanucci, J. K., Creem-Regehr, S. H. (2015, November). The effect of anxiety on gender differences in survey spatial learning. Talk presented at the *55th Annual Meeting of the Psychonomics Society, Chicago, IL.*

Padilla, L., Creem-Regehr, S. H., Stefanucci, J. K., & Cashdan, E. (2015, November). Influence of instructions on female performance on a virtual Morris water maze. Poster presented at the *55th Annual Meeting of the Psychonomics Society, Chicago, IL.*

Rand, K. M., Barhorst, E. M., Thomspon, W. B., & Creem-Regehr, S. H. (2015, November). Estimates of distance traveled while walking with normal compared to degraded vision. Poster presented at the *55th Annual Meeting of the Psychonomics Society, Chicago, IL.*

Barhorst, E. M., Rand, K. M., Thompson, W. B., & Creem-Regehr, S. H. (2015, November). The effects of restricted peripheral field on spatial learning while navigating. Poster presented at the *55th Annual Meeting of the Psychonomics Society, Chicago, IL.*

Padilla, L., Creem-Regehr, S. H., Stefanucci, J.K., & Cashdan, E. (2015, July). Sex Differences in Virtual Navigation Influenced by Scale, Visual Cue-Types, Spatial Memory and Lifetime Mobility. Poster presented at CogSci 2015, Pasadena, CA.

Ruginski et al. (2015, July). Understanding the Cone of Uncertainty: Non-expert interpretations of hurricane forecast uncertainty visualizations. Poster presented at CogSci 2015, Pasadena, CA.

Gill, D., Stefanucci, J. K., Creem-Regehr, S. H., & Cashdan, E. (2015, July). The effects of spatial anxiety on memory for spatio-temporal scale. Poster presented at CogSci 2015, Pasadena, CA.

Barhorst, E. M., Rand, K. M., Thompson, W. B., & Creem-Regehr, S. H. (2015, April). The effects of restricted field of view on spatial learning while navigating. Talk presented at the Rocky Mountain APA meeting, Boise, ID.

Schug, M., Stefanucci, J. K., Creem-Regehr, S. H., & Cashdan, E. (2015, March). Wayfinding anxiety and childhood experience. *Poster presented at the Meeting of the Society for Research in Child Development*, Philadelphia, PA.

Gagnon, K., Stefanucci, J.K., Creem-Regehr, S. H., & Cashdan, E. (2014, November). Characterizing Exploration Behavior in a Large-Scale Desktop Virtual Environment. *Poster at the 54th Annual Meeting of the Psychonomics Society, Long Beach, CA.*

Padilla, L., Creem-Regehr, S. H., Stefanucci, J.K., & Cashdan, E. (2014, November). Effects of Scale on Sex Differences in a Virtual Water Maze. *Poster at the 54th Annual Meeting of the Psychonomics Society, Long Beach, CA.*

Gagnon, K., Stefanucci, J.K., Creem-Regehr, S. H., & Cashdan, E. (2014, July). Sex Differences in Exploration and the Relationship to Harm Avoidance. *Poster presented at the 26th Annual Human Behavior and Evolution Society Conference*, Natal, Brazil.

Rand, K. M., Thompson, W. B. & Creem-Regehr, S. H. (2013, November). Navigation With Severely Degraded Vision Requires Increased Attentional Demands: A Mobility-Related Safety Account. *Poster presented at the 53rd Annual Meeting of the Psychonomics Society,* Toronto, Canada.

Tarampi, M. R. & Creem-Regehr, S. H. (2013, November). Spatial Transformations as a Function of Spatial Ability and Expertise. *Poster presented at the 53rd Annual Meeting of the Psychonomics Society,* Toronto, Canada.

Gagnon, K., Geuss, M. N., Stefanucci, J. K., Creem-Regehr, S. H. (2013, November). The Influence of Body Size and Social Context on Action Judgments for Self and Others. *Talk presented at the 53rd Annual Meeting of the Psychonomics Society,* Toronto, Canada.