

EDUCATION

University of Nevada, Reno

2018-present (ABD, grad date: May 2024)

- Ph.D Integrative Neuroscience
- PIs: Michael Webster, Ph.D, Fang Jiang, Ph.D.

Illinois State University

2014-2016

- M.S. Cognitive and Behavioral Sciences
- PI: Amrita Puri, Ph.D
- Thesis: *Ensemble Coding of Semantic Information: Are Numerical Averages Generated in Parallel?*

Lycoming College

2010-2014

- B.A. Psychology, with Honors, Dean's List, Biology Minor
- Thesis: *Alcohol Consumption and College Adjustment among College Students by Generational Status*

PUBLISHED MANUSCRIPTS

1. Crognale, M. A., **Lee, K.R.**, Richardson, A., Webster, M.A. (September 2023). The physiology and management of individual differences in color vision. *Color and Colorimetry Multidisciplinary Contributions*, GDC/AIC.
2. Richardson, A. J., **Lee, K. R.**, Crognale, M. A., & Webster, M. A. (2022). Using equiluminance settings to determine the cardinal chromatic directions for individuals. *Journal of the Optical Society of America A*, Special Issue
3. Ilic, I., **Lee, K.R.**, Mizokami, Y., Whitehead, L., & Webster, M.A. (2022). Adapting to an enhanced color gamut- implications for color vision and color deficiencies. *Optics Express*, 30(12).
4. **Lee, K.R.**, Groesbeck, E., Gwinn, O.S., Webster, M.A., & Jiang, F. (2021). Enhanced Peripheral face processing in deaf individuals. *Journal of Perceptual Imaging*, Special Issue.
5. **Lee, K.R.**, Dague, T. D., Sobel, K.V., Paternoster, N.J., & Puri, A.P. (2021). Set size and ensemble perception of numerical value. *Journal of Attention, Perception, & Psychophysics*, Special Issue.
6. **Lee, K. R.**, Webster, M.A. (2020). Environmental influences on color vision. *Encyclopedia of Color Science and Technology*, Overview Essay.
7. **Lee, K. R.**, Richardson, A. J., Walowit, E., Crognale, M. A., & Webster, M. A. (2020). Predicting color matches from luminance matches. *Journal of the Optical Society of America A*, Special Issue.
8. Qiu, C.*, **Lee, K. R.***, Goldstein, R., Jung, J. H., & Peli, E. (2018). De-cluttering using motion parallax improves recognition of new objects in simulated prosthetic vision. *Translational Vision Science and Technology*. *equal contribution first author
9. **Lee, K. R.**, Sobel, K.V., York, A.K., & Puri, A. M. (2018). Dissociating parallel and serial processing of numerical value. *Journal of Numerical Cognition*, Special Issue.

10. Han, S., Qiu, C., **Lee, K. R.**, Jung, J. H., & Peli, E. (2018). Word recognition: Re-thinking prosthetic vision evaluation. *Journal of Neural Engineering*, Special Issue. doi: 10.1088/1741-2552/aac663
11. Gilbertson, R., Norton, T. R., Beery, S., & **Lee, K. R.** (2018). Web-based alcohol intervention in first-year college students: Efficacy of full-program administration prior to second semester. *Substance Use and Misuse*, doi: 10.1080/10826084.2017.1392979

IN PREPARATION

1. **Lee, K. R.**, Webster, M. A. (2022). Assessing color similarities by phase matching.

RESEARCH EXPERIENCE

| | |
|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| <i>Vision Scientist Intern-Snap Inc.</i> | June 2023-Sept. 2023 |
| Snap Inc. Boulder, Colorado; Adviser: Dr. Katie Tregillus | |
| <i>Graduate Research Assistant-Visual Perception Lab</i> | July 2018-present |
| University of Nevada, Reno; PI: Michael A. Webster, Ph.D | |
| <i>Graduate Research Assistant-Plasticity Lab</i> | July 2018-Oct. 2019 |
| University of Nevada, Reno; PI: Fang Jiang, Ph.D | |
| <i>Research Assistant- Active Confocal Imaging for Visual Prostheses</i> | May 2016- May 2018 |
| Schepens Eye Research Institute, Mass Eye and Ear, Harvard Medical School; PIs: Eli Peli, M.Sc., O.D., Jae-Hyun Jung, Ph.D | |
| <i>Graduate Research Assistant – Understanding Suspicion in Cyber Environments</i> | Sept. 2015- May 2016 |
| Illinois State University funded by Air Force Research Laboratory; PI: Eric Wesselmann, Ph.D | |
| <i>Graduate Research Assistant – Cognitive and Perceptual Neuroscience Lab</i> | Aug. 2014- May 2016 |
| Illinois State University; PI: Amrita Puri, Ph.D | |
| <i>Graduate Research Assistant – Production is Prediction Study</i> | Aug. 2014- Dec. 2014 |
| Illinois State University, Psycholinguistics Lab; PI: John Cooper Cutting, Ph.D | |
| <i>Project Coordinator – Health Behavior Research</i> | Aug. 2011-Apr. 2014 |
| Lycoming College Psychology Department; PIs: Rebecca Gilbertson, Ph.D; Tina Norton, Ph.D | |
| <i>Research Assistant – Rodent Lab</i> | Jan. 2011-Mar. 2011; Jan. 2013-Apr. 2013 |
| Lycoming College Psychology Department; PI: Rebecca Gilbertson, Ph.D | |

INVITED TALKS

1. **Lee, K.R.**, Predicting color matches from luminance matches (2020).
University of Central Arkansas Neural Network
2. **Lee, K.R.**, Predicting color vision from luminance matches (2020).
Virtual OSA Vision and Color Data Blitz: New findings in Color Perception The Optical Society
3. **Lee, K.R.** Does Holistic Crowding of Faces Depend on Task Demands? (2016).
Schepens Eye Research Institute, Mass Eye and Ear, Harvard Medical School

INVITED TALKS (Upcoming)

1. **Lee, K.R.**, Improving recognition of cluttered objects using motion parallax in simulated prosthetic vision (2023).

Smith-Kettlewell Eye Research Institute

RESEARCH PRESENTATIONS

Lee, K.R., Webster, M.A. Individual differences in judging facial categories. (May 2023). *Vision Sciences Society*, [Poster].

Parthasarathy, M.K., **Lee, K.R.**, Abbey, C. K., Webster, M.A. A direct measure of adaptation and visual salience. (Oct. 2022) *Optica Fall Vision Meeting*, [Poster].

Crognale, M. A., Richardson, A., **Lee, K.R.**, Webster, M.A. Using equiluminance to characterize individual differences in color vision. (July 2022). *International Color Vision Society*, [Poster].

Lee, K.R., Meza, R., Webster, M.A. Color similarities assessed by phase matching. (May 2021). *Vision Sciences Society (V-VSS)*, [Virtual Poster].

Richardson, A., **Lee, K.R.**, Webster, M.A., Crognale, M. A. Can variations in luminance sensitivity predict variations in the cardinal color directions? (May 2021). *Vision Sciences Society (V-VSS)*, [Virtual Poster].

Lee, K.R., Nakamura, K., Nakashima, Y., Yamaguchi, M. Y., Watanabe, K., Webster, M.A. Individual and population differences in face categories. (May 2020). *Vision Sciences Society (V-VSS)*, [Virtual Poster].

Richardson, A., **Lee, K.R.**, Crognale, M.A., Webster, M.A. How to find a tritan line, without actually trying. (May 2020). *Vision Sciences Society (V-VSS)*, [Virtual Poster].

Lee, K.R., Richardson, A., Walowit, E., Crognale, M.A., Webster, M.A. Predicting color matches from luminance matches. (July 2019). *International Color Vision Society*, [Poster].

Lee, K.R., Groesbeck, E., Gwinn, O. S., Jiang, F. Deaf individuals show enhanced face processing in the periphery. (May 2019). *Vision Sciences Society*, [Poster].

Richardson, A., **Lee, K.R.**, Walowit, E., Crognale, M.A., Webster, M.A. Minimum (motion) measurements of human color matching functions. (May 2019). *Vision Sciences Society*, [Poster].

Lee, K.R., Qiu, C., Jung, J.H., & Peli, E. Motion parallax improves recognition of new objects presented in clutter in simulated prosthetic vision. (Sept. 2018). *OSA Vision Meeting*, [Poster].

Lee, K.R., Sobel, K. V., York, A., K., & Puri, A. M. Parallel and serial processing of numerical value in digit ensembles. (May 2018). *Vision Sciences Society*, [Poster].

Lee, K.R., Qiu, C., Jung, J.H., & Peli, E. Motion parallax improves recognition of stabilized object with cluttered background in simulated prosthetic vision. (May 2018). *The Association for Research in Vision and Ophthalmology (ARVO)*, [Poster].

Puri, A., & **Lee, K.R.** Estimating Numerical Averages: Ensemble Coding at the Semantic Level. (March 2017). *Southwestern Psychological Association*, [Conference Talk].

Lee, K.R., Sobel, K., Cody, O., Puri, A. Ensemble Representations of Semantic Meaning: Are Numerical Averages Generated in Parallel? (Nov. 2016). *OPAM*, [Poster].

Dayer, A., * **Lee, K.R.**, * Chow, S., Flynn, E., & Puri, A. Does holistic face crowding depend on task demands? (May 2016). *Vision Sciences Society*, [Poster].

*equal contribution first author and co-presenter

Puri, A., Halladay, T., **Lee, K.R.**, Romager, J. & Caselman, E. Anxiety and Accuracy of Ensemble Representations of Emotion in a Crowd. (Nov. 2015). *Psychonomic Society's Annual Meeting*, [Poster].

Lee, K.R., & Puri, A. Characteristics of Visual Crowding of Faces versus Non-Face Objects. (May 2015). *Association for Psychological Science Convention*, [Poster].

Gilbertson, R., Norton, T., **Lee, K.R.**, Watsula, A., & Beery, S. The Effectiveness of Personalized Web-Based Alcohol Prevention: A Longitudinal Perspective. (June 2013). *Research Society on Alcoholism National Conference*, [Poster].

Zaman, A., **Lee, K.R.**, & Gilbertson, R. Predictors of At-Risk Drinking. (April 2012). *Eastern Colleges Science Conference*, [Poster].

PROFESSIONAL DEVELOPMENT

Nevada Bioinformatics Center's Machine Learning Bootcamp Jan. 2023
Covering fundamentals of Python for data science and supervised learning
University of Nevada, Reno

Reviewer July 2022
Optics Express

Neuroscience Student Committee Aug. 2019-present
University of Nevada, Reno

Frontiers for Young Minds Review Editor Oct. 2018-2020
University of Nevada, Reno

Workshop in EEG Frequency-tagging in Visual Neuroscience Sept. 24-27, 2018
University of Nevada, Reno

International Colour Vision Society Summer School 2018 July 30-Aug. 3, 2018
Pembroke College, Oxford, UK

TEACHING EXPERIENCE

Teacher PSY/NS Perception 405 July-Aug. 2020
University of Nevada, Reno

Teaching Assistant PSY/NS Perception 405 Aug. 2019-present
University of Nevada, Reno

Research Mentor PSY 395 Jan. 2019-May 2023
University of Nevada, Reno

Teacher PSY 392 Senior Seminar Jan. 2016-May 2016
Illinois State University

1. Topic: Unique psychological disorders: Ramachandran's *Phantoms in the Brain*
2. Topic: Perception of morality in media: Marvel's *Civil War*, Sebald's *The Rings of Saturn*

Teaching Assistant PSY 331 Research Methods
Illinois State University

Jan. 2015- May 2016

Teaching Assistant PSY 101 intro
Lycoming College

Aug. 2011-Apr. 2014

TECHNICAL PROFICIENCY

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|------------------------|-------------------------------------------------------------------------------------------|
| <i>Programming</i> | Matlab, Python, R, Overleaf |
| <i>EEG</i> | Biosemi activeTwo, BrainVision actiCHamp |
| <i>Psychophysics</i> | Psychtoolbox, SPSS |
| <i>Virtual Reality</i> | Oculus Rift |
| <i>Eye Tracking</i> | Eyelink 1,000, Tobii |
| <i>Camera Systems</i> | Lytro Illum Light Field, Wicab's BrainPort V100, V200, VisionPro, and Workstation Systems |
| <i>Survey design</i> | Qualtrics, SurveyMonkey |

LEADERSHIP AND SCHOLASTIC HONORS

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|----------------------------------------------------------------------------------|------------|
| Rick M. Gardner Scholarship University of Nevada, Reno Psychology Department | 2021 |
| Elsevier/Vision Research Virtual Travel Award for VSS Vision Sciences Society | 2021 |
| Big sister volunteer Big Brothers Big Sisters of Northern Nevada | 2019-2022 |
| ICVS Student Travel Award International Colour Vision Society | 2019 |
| Graduate Dean's Merit Scholarship University of Nevada, Reno | 2018-2019 |
| Massachusetts State Science Olympiad Framingham State University | 2017, 2018 |
| J. Milton Skeath Award in Psychology Lycoming College | 2014 |

REFERENCES

Michael A. Webster, Ph.D.

Foundation Professor

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Psychology Department

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Eli Peli, MSc, OD

Professor of Ophthalmology

Mass Eye and Ear, Schepens Eye Research Institute

Ophthalmology Department

20 Staniford Street, Boston, MA 02114, USA

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Katie Tregillus, Ph.D.

Vision Scientist

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