Kassandra R. Lee

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**Education**

*Graduate*

University of Nevada, Reno 2018-present

* Ph.D 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?*

*Undergraduate*

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

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.

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).

**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.

**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.

**Lee, K. R**., Webster, M.A. (2020). Environmental influences on color vision. Encyclopedia of Color Science and Technology, Overview Essay.

**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.

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

**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.

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

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

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

# Research Positions

*Graduate Research Assistant–Visual Perception Lab* July 2018-present University of Nevada, Reno

PI: Michael A. Webster, Ph.D

Aim 1) To better understand individual differences in the processing of color to find the most efficient ways to categorize an individual’s color percepts. 2) To investigate the role of individual and cultural differences in face perception through the use of visual adaptation paradigms.

*Graduate Research Assistant–Plasticity Lab* July 2018-Oct. 2019 University of Nevada, Reno

PI: Fang Jiang, Ph.D

**Aim:** 1) To utilize EEG with fast periodic stimulation to assist in investigation of differences in frequency-tagged response amplitude and topography between early deaf individuals and hearing controls when presented with visual and/or tactile stimuli 2) To utilize modern technological approaches, such as VR to understand multisensory integration for individuals with normal sensory processing vs. those with deficits

*Research Assistant-* *Active Confocal Imaging for Visual Prostheses*  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

**Aim**: To improve the quality of imaging presented through visual prostheses using image processing methods such as confocal lightfield imaging and edge enhancement, and simulated prosthesis to test motion parallax for background de-cluttering

* Training of blind individuals with sensory substitution device
* Simulated visual prosthesis via Oculus Rift HMD

*Graduate Research Assistant – Understanding Suspicion in Cyber Environments* Sept. 2015- May 2016Illinois State University funded by Air Force Research Laboratory

Supervisor: Eric Wesselmann, Ph.D

**Aim:** To investigate the psychological aspects of suspicion about social interactions online

*Graduate Research Assistant – Cognitive and Perceptual Neuroscience Lab* Aug. 2014- May 2016 Illinois State University

Supervisor: Amrita Puri, Ph.D

**Aim:** To evaluate mechanisms underlying our ability to gather visual information from crowded scenes

* Assisting in set-up and training with BrainVision actiCHamp EEG
* Assisting in set-up and training with Tobii eye tracker

*Graduate Research Assistant – Production is Prediction Study* Aug. 2014- Dec. 2014 Illinois State University, Psycholinguistics Lab

Supervisor: John Cooper Cutting, Ph.D

**Aim:** Toassess the effects of unexpected words/phrases on subject response production, ultimately providing insight into their predictions about sentence structure

* Voice transcription

*Project Coordinator – Health Behavior Research* Aug. 2011-Apr. 2014

Lycoming College Psychology Department

Supervisors: Rebecca Gilbertson, Ph.D; Tina Norton, Ph.D

**Aim:** Toinvestigate the effectiveness of a web-based alcohol prevention program on first-year students’ academic performance and health behaviors

*Research Assistant – Rodent Lab* Jan. 2011-Mar. 2011, & Jan. 2013-Apr. 2013

Lycoming College Psychology Department

Supervisor: Rebecca Gilbertson, Ph.D

**Aim:** To evaluate the effects of adolescent alcohol consumption on rodent’s behavioral abilities in adulthood

# Research Presentations

*Vision Sciences Society* May 2023

**Lee, K.R.**, Webster, M.A. Individual differences in judging facial categories. *submitted*

*Optica Fall Vision Meeting* Oct. 2022

Parthasarathy, M.K., **Lee, K.R.**, Abbey, C. K., Webster, M.A. A direct measure of adaptation and visual salience. *Poster Presentation*

*International Color Vision Society* July 2022

Crognale, M. A., Richardson, A., **Lee, K.R.**, Webster, M.A. Using equiluminance to characterize individual differences in color visison. *Poster Presentation*

*Vision Sciences Society (V-VSS)*  May 2021

**Lee, K.R.**, Meza, R., Webster, M.A. Color similarities assessed by phase matching *Virtual Poster Presentation*

*Vision Sciences Society (V-VSS)*  May 2021

Richardson, A., **Lee, K.R.**, Webster, M.A., Crognale, M. A. Can variations in luminance sensitivity predict variations in the cardinal color directions? *Virtual Poster Presentation*

*University of Central Arkansas Neural Network*  Dec. 3, 2020

**Lee, K.R**., Predicting color matches from luminance matches. *Invited Talk*

*The Optical Society* July 8, 2020

**Lee, K.R**., Predicting color vision from luminance matches. *Virtual* *Invited Talk OSA Vision and Color Data Blitz: New findings in Color Perception*

*Vision Sciences Society (V-VSS)*  May 2020

**Lee, K.R.**, Nakamura, K., Nakashima, Y.,Yamaguchi, M. Y., Watanabe, K., Webster, M.A. Individual and population differences in face categories. *Virtual Poster Presentation*

*Vision Sciences Society (V-VSS)* May 2020

Richardson, A., **Lee, K**.**R**., Crognale, M.A., Webster, M.A. How to find a tritan line, without actually trying. *Virtual Poster Presentation*

*International Color Vision Society* July 2019

**Lee, K**.**R**., Richardson, A., Walowit, E., Crognale, M.A., Webster, M.A. Predicting color matches from luminance matches. *Poster Presentation*

*Vision Sciences Society* May 21, 2019

**Lee, K**.**R.**, Groesbeck, E., Gwinn, O. S., Jiang, F. Deaf individuals show enhanced face processing in the periphery. *Poster Presentation*

*Vision Sciences Society* May 18, 2019

Richardson, A., **Lee, K**.**R**., Walowit, E., Crognale, M.A., Webster, M.A. Minimum (motion) measurements of human color matching functions. *Poster Presentation*

*University of Nevada, Reno Neuroscience Retreat* April 6, 2019

**Lee, K**.**R.**, Groesbeck, E., Gwinn, O. S., Jiang, F. Enhanced peripheral face processing for deaf individuals. *Poster Presentation*

*OSA Vision Meeting* Sept. 23, 2018

**Lee, K**.**R.,** Qiu, C., Jung, J.H., & Peli, E. Motion parallax improves recognition of new objects presented in clutter in simulated prosthetic vision. *Poster Presentation*

*Vision Sciences Society* May 19, 2018

**Lee, K**.**R.,** Sobel, K. V., York, A., K., & Puri, A. M. Parallel and serial processing of numerical value in digit ensembles. *Poster Presentation.*

*The Association for Research in Vision and Ophthalmology*  May 1, 2018

**Lee, K**.**R.,** Qiu, C., Jung, J.H., & Peli, E. Motion parallax improves recognition of stabilized object with cluttered background in simulated prosthetic vision. *Poster Presentation*.

*Southwestern Psychological Association* March 31, 2017

Puri, A., & **Lee, K**.**R.** Estimating Numerical Averages: Ensemble Coding at the Semantic Level. *Conference Talk*.

*OPAM* Nov. 17, 2016

**Lee, K**.**R.**, Sobel, K., Cody, O., Puri, A. Ensemble Representations of Semantic Meaning: Are Numerical Averages Generated in Parallel? *Poster Presentation*.

*Vision Sciences Society* May 13-18, 2016

Dayer, A., \* **Lee, K**.**R.**, \* Chow, S., Flynn, E., & Puri, A. Does holistic face crowding depend on task demands? *Poster Presentation*.

\*equal contribution first author and co-presenter

*Illinois State University Research Day Symposium* Apr. 8, 2016

**Lee, K**.**R.**, Puri, A., & Sobel, K. Ensemble Coding of Semantic Information: Are Numerical Averages Generated in Parallel? *Poster Presentation*.

*Schepens Eye Research Institute, Mass Eye and Ear, Harvard Medical School* March 10, 2016

**Lee, K**.**R.** Does Holistic Crowding of Faces Depend on Task Demands? *Invited Talk*.

*Psychonomic Society’s Annual Meeting* Nov. 19-22, 2015

Puri, A., Halladay, T., **Lee, K**.**R.**, Romager, J. & Casalman, E. Anxiety and Accuracy of Ensemble Representations of Emotion in a Crowd. *Poster Presentation*.

*Association for Psychological Science Convention* May 23, 2015

**Lee, K**.**R.**, & Puri, A. Characteristics of Visual Crowding of Faces versus Non-Face Objects. *Poster Presentation*.

*Illinois State University Research Day Symposium* Apr. 10, 2015

**Lee, K**.**R.**, & Puri, A. Interference Between Part-Based and Holistic Representations In The Peripheral Visual Field. *Poster Presentation*.

*Illinois State University Psi Chi Research Colloquium* Apr. 17, 2015

**Lee, K**.**R.**, & Puri, A. The Role of Part-Based and Holistic Representations in Visual Crowding. *Colloquium Talk*.

*Illinois State University Phi Sigma Research Symposium* Feb. 27, 2015 School of Biological Sciences

**Lee, K**.**R.**, & Puri, A. Visual Crowding: Contributions of Part-Based vs. Holistic Representations. *Poster Presentation*.

*Lycoming College Independent Study/ Honors Project* Aug. 2013-Apr. 2014

Psychology Department

**Lee, K**.**R.** Alcohol Consumption and College Adjustment among College Students by Generational Status.

* Presented as research paper, oral proposal and defense

*Research Society on Alcoholism National Conference* June 22-26, 2013

Gilbertson, R., Norton, T., **Lee, K**.**R.**, Watsula, A., & Beery, S. The Effectiveness of Personalized Web-Based Alcohol Prevention: A Longitudinal Perspective. *Poster Presentation*.

*Eastern Colleges Science Conference* Apr. 13-14, 2012

Zaman, A., **Lee, K**.**R.,** & Gilbertson, R. Predictors of At-Risk Drinking. *Poster Presentation*.

*Lycoming College* Fall 2012

**Lee, K**.**R.**, Miller, K., & Poorman, J. Assessment of Group versus Individual Problem Completion: Effects of Cellphone Use and Social Loafing. *Poster Presentation*.

# 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 AssistantPSY/NS Perception 405Aug. 2019-present

University of Nevada, Reno

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

Teaching Assistant PSY 331 Research Methods Jan. 2015- May 2016 Illinois State University

Teaching Assistant PSY 101 intro Aug. 2011-Apr. 2014

Lycoming College

# 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 | 2021 |

Vision Sciences Society

Big sister volunteer 2019-2022

Big Brothers Big Sisters of Northern Nevada

ICVS Student Travel Award 2019

International Colour Vision Society

Graduate Dean's Merit Scholarship, $10,000 2018-2019 University of Nevada, Reno

Massachusetts State Science Olympiad 2017, 2018

Framingham State University

• Volunteered preparation and at event

J. Milton Skeath Award in Psychology 2014

Lycoming College

• Presented for superior undergraduate achievement that shows the most potential for future work in psychology

Gamma Sigma Alpha National Greek Academic Honor Society 2013 Lycoming College

Sigma Tau Delta English Honor Society 2012 Lycoming College

# Research Skills/Training

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| * SPSS * R statistical programming (introductory-level experience) * Presentation (Neurobehavioral Systems) * MATLAB/PTB * Oculus Rift * Biosemi activeTwo EEG System * BrainVision actiCHamp EEG * Tobii eye tracker * Eyelink 1,000 eye tracker (introductory-level experience) | * Lytro Illum Light Field Camera * Minolta Luminance Meter LS100 * Wicab’s BrainPort V100, V200, VisionPro, and Workstation systems * Topcon CL-100 lensmeter * Amazon Business Account creation and management * Visual acuity measurement * Designing and distributing online surveys   (Qualtrics, SurveyMonkey)   * Overleaf |

# References

***Name Institution, Position Email Phone***

Michael Webster University of Nevada, Reno, Foundation Prof. mwebster@unr.edu (775) 682-8691

Eli Peli Schepens, Harvard Med. School, Senior Scientist eli\_peli@meei.harvard.edu (617) 912-2597

Amrita Puri University of Central Arkansas, Assistant Prof. apuri@uca.edu (530) 220-5038