# Jesse R. Macyczko

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## RESEARCH INTERESTS

Cognitive neuroscience, perception, neuroimaging, mental illness, visual adaptation, color vision

## EDUCATION

**Integrative Neuroscience Doctor of Philosophy,** Current - University of Nevada, Reno
**Behavioral Neuroscience Bachelor of Science,** December 2019 - University of North Florida
**A.A Degree,** December 2017- University of North Florida

## PUBLICATIONS

Fatemeh Basim, Arsiak Ishaq, **Jesse R. Macyczko**, Erin Goddard, Vanessa Honson, Juno Kim, Kimberly A. Jameson, and Michael A. Webster. (2025). Achromatic loci in normal and anomalous trichromats. *J. Opt. Soc. Am. A 42*, B245-B255. https://doi.org/10.1364/JOSAA.546890

**Jesse R. Macyczko**, Michael A. Webster. (2025). Sensitivity to the number of colors in textures defined by luminance and chromatic contrast. *J. Opt. Soc. Am. A 42*, B425-B431. https://doi.org/10.1364/JOSAA.545300

Wenyan Lu, Francis Shue, Aishe Kurti, Suren Jeevaratnam, Jesse R. Macyczko, Bhaskar Roy, Taha Izhar, Ni Wang, Guojun Bu, Takahisa Kanekiyo. (2024). Amyloid pathology and cognitive impairment in hAβ-KI and $APP^{SAA}$-KI mouse models of Alzheimer's disease. *Neurobiology of Aging, 145,* 13-23. https://doi.org/10.1016/j.neurobiolaging.2024.10.005

Jing Zhao, Tadafumi C. Ikezu, Wenyan Lu, **Jesse R. Macyczko**, Yonghe Li, Jaura J. Lewis-Tuffin, Yuka A. Martens, Yingxue Ren, Yiyang Zhu, Yan W. Asmann, Nilüfer Ertekin-Taner, Takahisa Kanekiyo, Guojun Bu. (2023). APOE deficiency impacts neural differentiation and cholesterol biosynthesis in human iPSC-derived cerebral organoids. *Stem Cell Research & Therapy, 14*(1), 214. https://doi.org/10.1186/s13287-023-03444-y

**Jesse R. Macyczko**, Na Wang, Wenyan Lu, Suren Jeevaratnam, Francis Shue, Yuka Martens, Chia-Chen Liu, Takahisa Kanekiyo, Guojun Bu, Yonghe Li. (2023). Upregulation of sFRP1 is more profound in female than male 5xFAD mice and positively associated with amyloid pathology. *Journal of Alzheimer's Disease, 95*(2), 399–405. https://doi.org/10.3233/JAD-230218

**Jesse R. Macyczko**, Na Wang, Jing Zhao, Yingxue Ren, Wenyan Lu, Tadafumi C. Ikezu, Na Zhao, Chia-Chen Liu, Guojun Bu, Yonghe Li. (2022). Suppression of Wnt/β-catenin signaling is associated with downregulation of Wnt1, PORCN and Rspo2 in Alzheimer's disease. *Molecular Neurobiology,*

*60*(1), 26–35. https://doi.org/10.1007/s12035-022-03065-1

Yonghe Li, **Jesse R. Macyczko**, Chia-Chen Liu, Guojun Bu. (2022). ApoE4 reduction: an emerging and promising therapeutic strategy for Alzheimer's disease. *Neurobiology of Aging, 115*, 20–28. https://doi.org/10.1016/j.neurobiolaging.2022.03.011

**RESEARCH APPOINTMENTS**

PhD Student: University of Nevada, Reno, Integrative Neuroscience, August 2022 to present: Involved in research studying visual adaptation, color vision, as well as perceptual alterations in individuals with psychosis.

Graduate Research Education Program Student: Neurobiology of Alzheimer's Disease Lab, Mayo Clinic, Neuroscience Department, March 2021 to 2022. Transitioned to a student-oriented position so that I might take advantage of the learning opportunities.

Special Project Associate II: Neurobiology of Alzheimer's Disease Lab, Mayo Clinic, Neuroscience Department, November 2020 to March 2021. Worked towards the discovery of Alzheimer's disease treatments utilizing an array of molecular biology techniques.

Special Project Associate II: Translational Neuropathology Lab, Mayo Clinic, Neuroscience Department, June 2020 to November 2020. Part of the Immunohistochemistry team, worked to investigate Alzheimer's disease subtypes utilizing immunohistochemistry and neuroimaging.

Lab Manager: University of North Florida, Department of Psychology, December 2019 to June 2020. Responsibilities included holding lab meetings, mediating between all the projects in the lab, helping other members prepare for research conferences, teaching about the fNIRS equipment, data analysis, experimental design, and writing IRB proposals.

Assistant Lab Manager: University of North Florida, Department of Psychology, January 2019 to December 2019. Responsibilities included holding lab meetings when needed, helping students with the other projects, working on my own project, and writing IRB proposals.

Teacher's Assistant: University of North Florida, Department of Psychology, January 2019 to June 2019. Graded assignments for the Research Methods students and helped answer any questions the students may have had about the subject.

Lab Assistant: University of North Florida, Department of Psychology, August 2017 to January 2019. Running participants was a large part of this position, but data analysis, presenting at conferences, and experimental design all came into play.

## CONFERENCE PRESENTATIONS

2025. Macyczko, Jesse. “Contrast matching between SvsLM and LvsM signals using steady state visual evoked potentials.” Vision Sciences Society, St. Pete Beach, FL

2024. Macyczko, Jesse. “Color categories in normal and color-deficient observers.” International Colour Vision Society, Ljubljana, Slovenia.

2024. Macyczko, Jesse. “Comparison of hue differences measured by perception versus visual evoked potentials.” Vision Sciences Society, St. Pete Beach, FL

2023. Macyczko, Jesse. “Discriminating color ensembles.” Vision Sciences Society, St. Pete Beach, FL

2020. Macyczko, Jesse. “Using fNIRS to Study Mindful Meditation and its Effects on Emotional Processing.” Southeastern Psychological Association, New Orleans, FL

2020. Macyczko, Jesse. “Using fNIRS to Measure Emotional Processing Following Mindful Meditation.” Florida Undergraduate Research Conference, Fort Myers, FL

2019. Macyczko, Jesse. “Using fNIRS to Explore Students’ Strategy Use During Reading.” Southeastern Psychological Association, Jacksonville, FL

2019. Macyczko, Jesse. “Using fNIRS to Study College Students’ Reading Strategies.” Florida Undergraduate Research Conference, Jacksonville, FL

2018. Macyczko, Jesse. “Exploring the Use of fNIRS in a Multrait-multimethod Investigation of Students’ Strategic Processing.” Assessing learning through online measures, Antwerp, Belgium

2018. Macyczko, Jesse. “Exploring Emotional Processing with fNIRS.” Florida Undergraduate Research Conference, Melbourne, FL

2018. Macyczko, Jesse. “Prefrontal Cortex Responses to Emotionally-Valenced Images.” Showcase of Osprey Advancements in Research and Scholarship, Jacksonville, FL

## TEACHING EXPERIENCE

Teaching assistant, PSY Experimental Psychology 301, University of Nevada, Reno, Spring 2024
Teaching assistant, PSY/NS Perception 405, University of Nevada, Reno, Spring 2023
Teaching assistant, PSY/NS Perception 405, University of Nevada, Reno, Fall 2022
Teaching assistant, PCB Behavioral Neuroscience 3002, University of North Florida, Spring 2019

## HONORS / AWARDS

Wilson, Jerry & Betty Psychology Scholarship, 2025
Graduate Student Association Travel Grant, 2024
VSS Travel Grant 2023
Graduate Student Association Travel Grant, 2023
National Eye Institute Early Career Scientist Travel Grant, 2023
Raymond H. Berner Scholarship award, 2022
Transformation Learning Opportunity, 2018
International Conference Grant, 2018
Dean's List, Fall 2017

## RESEARCH SKILLS

**Software Skills** - EEG, VEP, fNIRS, fMRI, MATLAB, SPSS, R, Microsoft Excel, Microsoft Powerpoint, GraphPad, Keyence fluorescent imaging, Aperio immunohistochemical imaging

**Benchwork Skills** - Western blot, ELISA, qPCR, plasmid isolation, cell culture, immunofluorescent staining with mouse brain, animal modeling and research with rodents

**REFERENCES**


| *Name* | *Institution* | *Position* | *Email* |
|---|---|---|---|
| Michael Webster, Ph.D | University of Nevada, Reno | Foundation Professor | mwebster@unr.edu |
| Guojun Bu, Ph.D | Hong Kong Univeristy | Chair Professor | gbu@ust.hk |
| Yonghe Li, Ph.D | Mayo Clinic Jacksonville | Assistant Professor | Li.Yonghe@mayo.edu |
| Katherine C. Hooper, Ph.D | University of North Florida | Director, Behavioral Neuroscience Program | KHooper@unf.edu |
| Daniel Dinsmore, Ph.D | University of North Florida | Associate Dean/ Professor | Daniel.Dinsmore@unf.edu |