

Grant Fairchild

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Education

The University of Nevada, Reno

Fall 2017-Present

PhD in Neuroscience (Planned Summer 2024)

MS in Neuroscience (Fall 2021)

GPA: 4.000 (4.0 scale)

GRE Scores (Verbal/Quantitative): 170/168 (taken 7/7/2015)

The University of Alabama; Honors College

Fall 2011-Spring 2015

Bachelor of Science in Biology, *magna cum laude*

Bachelor of Arts in Philosophy with Minor in Computer-Based Honors, *magna cum laude*

GPA (Overall/Biology Major/Philosophy Major): 3.800/3.978/4.198 (4.0 scale)

Research Experience

Graduate Research Assistant in the lab of Dr. Jacqueline Snow

Summer 2017-Present

--Responsible for international collaboration using fMRI to compare cortical shape processing for real objects vs. images

--Responsible for eye tracking project investigating differences in gaze patterns directed at real, graspable tools vs. 3-D and 2-D images of tools

--Responsible for project comparing EEG responses to real objects and images with or without a transparent, grasp-preventing barrier between the participant and stimulus

--Responsible for fMRI project using voxelwise modelling to compare feature representation of real objects vs. printed photographs

--Responsible for project comparing fMRI responses to real objects vs. pictures presented within vs. outside of participants' reach

--Responsible for fMRI project comparing memory and memory representations of stimuli presented as real objects vs. images

--Partially responsible for project using EEG to compare brain responses to stimuli presented as real, graspable objects, printed photographs, or augmented reality, 3D, virtual objects

Undergraduate Research Assistant in the lab of Drs. Guy and Kim Caldwell

Summer 2011-Spring 2015

--Performed research all 8 semesters during undergraduate career, including full-time during summers of 2011, 2012, 2013, and 2014

--Researched proliferation of neurite branching in model organism *C. elegans*, initially under a Senior undergraduate mentor and then independently

--Responsible for project examining influence of microRNAs on neurodegeneration in model organism *C. elegans*

--Webmaster of lab website from 2013 to 2015

Core Competencies

Cognitive Neuroscience: fMRI, EEG, psychophysics, eye tracking

Programming: Python, MATLAB, R, C++, Fortran, HTML, MySQL

Data Analysis: SPSS, multidimensional scaling, discriminant function analysis, MANOVA, voxelwise modelling, , MVPA, representational similarity analysis (RSA), PCA, k-means, basic statistical techniques, and other statistical and computational techniques

Machine Learning: Neural networks, decision trees, k-nearest neighbors, boosting, CNNs, support vector machines, deep learning

Publications

- Fairchild, G. T., Kavcar, O., Rudd, M., Roach, R., & Snow, J. S. (2024)** Discriminable human gaze patterns for solid objects versus 2-D and 3-D images of those objects. [Manuscript in preparation]
- Fairchild, G. T., Holler, D. E., Fabbri, S., Gomez, M. A., & Snow, J. C. (2024)** *Naturalistic Object Representations Depend on Distance and Size Cues*. bioRxiv. <https://doi.org/10.1101/2024.03.16.585308>
- Fairchild, G. T., Marini, F., & Snow, J. S. (2021)** Graspability modulates the stronger EEG signature of motor preparation for real objects vs. pictures. *Journal of Cognitive Neuroscience*, 33(12):2477-2493.
- Fairchild, G. T., & Snow, J. S. (2020)** Physical Inference: How the brain represents mass. *eLife*, 9:e54373. DOI: 10.7554/eLife.54373
- Fairchild, G. T. (2012)** An introductory review of the role of synaptic plasticity in memory. *The Journal of Science and Health at the University of Alabama*, 9(1): 36-40.

Honors, Awards, and Scholarships

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| Early Career Scientist Travel Grant
National Eye Institute | Spring 2024 |
| Robert L. Solso Graduate Psychology Scholarship
Psychology Department, University of Nevada, Reno | Summer 2023 |
| Elizabeth Ann and Rick M. Gardner Graduate Psychology Scholarship
College of Science, University of Nevada, Reno | Fall 2022 |
| 2021-2022 Raymond H. Berner Scholarship
Graduate School, University of Nevada, Reno | Fall 2021 |
| 2021 GSA Outstanding Graduate Student Scholarship
Graduate Student Association, University of Nevada, Reno | Spring 2021 |
| Graduate Research Fellowship Program (GRFP) Honorable Mention
National Science Foundation | Spring 2019 |
| Graduate Dean's Fellowship
Graduate School, University of Nevada, Reno | Fall 2017-Spring 2018 |
| 2015 Randall Outstanding Undergraduate Research Award
University of Alabama | Spring 2015 |
| Honored at Annual CBH Honors Celebration Dinner
Computer-Based Honors Program, University of Alabama | Springs of 2013, 2014, and 2015 |
| Howard Hughes Medical Institute Undergraduate Researcher
Howard Hughes Medical Institute | Summer 2012 |
| Dr. J. Henry Walker Memorial Scholarship in Biology
Department of Biological Sciences, University of Alabama | Spring 2012 |
| National Merit Finalist/Presidential Scholarship
National Merit Scholarship Corporation/University of Alabama | Fall 2011 |
| President's List
University of Alabama | Fall 2011-Spring 2012 |
| Eagle Scout
Boy Scouts of America | Spring 2011 |
| Beta Beta Beta National Biological Honor Society | |
| Phi Sigma Tau International Honor Society in Philosophy | |
| Perfect SAT Score of 2400 | Fall 2010 |
| Perfect ACT Score of 36 | Fall 2010 |

Teaching Experience

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| Teaching Assistant for PSY 240, Introduction to Research Methods
20-hour/week TAship under Dr. Jacqueline Snow, Department of Psychology, UNR | Fall 2019, Spring 2022,
Fall 2023, Spring 2024 |
| Teaching Assistant for PSY 101, General Psychology
20-hour/week TAship under Dr. Christopher Blair, Department of Psychology, UNR | Spring 2023 |

Teaching Assistant for PSY 432, Memory	<i>Fall 2021</i>
20-hour/week TAs hip under Dr. Marian Berryhill, Department of Psychology, UNR	
American College and University Educators (ACUE) Certificate in Effective College Instruction	<i>Spring 2020</i>
Certification earned by taking a two-semester course in evidence-based, best teaching practices	
Teaching Assistant for PSY 416, Cognitive Psychology	<i>Spring 2020</i>
20-hour/week TAs hip under Dr. Marian Berryhill, Department of Psychology, UNR	
Teaching Assistant for PSY 301, Experimental Psychology	<i>Spring 2019</i>
20-hour/week TAs hip under Dr. Mark Lescroart, Department of Psychology, UNR	

Mentorship

Mentorship of undergraduate research assistants	<i>Summer 2017-Present</i>
RAs I have worked with include Katy Breeding, Sarah Olin, Arunima Chakraborty, Natassia Zander, Rachael Roach, Gabrielle Serafim, Christian Nemeth, Annalise Bascom, and Jacob Parenti.	
Graduate Mentor for Project Short	<i>Fall 2020-Present</i>
Help under-represented graduate school applicants write personal statements, conduct mock interviews with them, and provide general advice about graduate school and the application process	
Science Mentor for <i>Frontiers for Young Minds</i>	<i>Summer 2018-Fall 2023</i>
Science journal for elementary and middle school students	

Leadership Experience

Graduate Representative for Institutional Review of UNR's Neuroscience Program	<i>Fall 2023</i>
Provide graduate student perspective for internal institutional review	
Member of Organizing Board of Food for Thought	<i>Fall 2022-Present</i>
Public-facing lecture series on neuroscience's societal implications	
Member of Community Innervation Club	<i>Spring 2021-Present</i>
Help propose STEM internships for under-represented high school students	
Co-Organizer of Integrative Neuroscience Program Grant-Writing Brown Bag	<i>Fall 2020-Present</i>
Biweekly sessions promote sharing of research and foster grant-writing skills	
Member of Integrative Neuroscience Program Graduate Student Committee	<i>Fall 2019-Spring 2020</i>
Organize annual retreat for program and buddy system for new students	
Organizer of Integrative Neuroscience Program Brain Dissections	<i>Summer 2019, Summer 2021</i>
Coordinated with Dr. Gillian Moritz of UNR's School of Medicine	
President of Integrative Neuroscience Graduate Student Club	<i>Fall 2018-Present</i>
Help oversee brain awareness outreach events	
Graduate Student Representative on Steering Committee of UNR's Institute for Neuroscience	<i>Summer 2018-Present</i>
Represent graduate students' interests in the developing Institute	
Organizer of "The Social Brain"	<i>Spring 2018-Present</i>
Regular social events for Neuroscience and Psychology graduate students	
Editorial Director of The Journal of Science and Health at The University of Alabama (JOSHUA)	<i>Fall 2014-Spring 2015</i>
Editor from fall 2012-spring 2013 and from fall 2013-spring 2014	
President of 3DBG	<i>Fall 2013-Spring 2015</i>
University of Alabama's board gaming club	

Conference Presentations

Vision Sciences Society 2023 Annual Meeting Poster Presentation	<i>Summer 2023</i>
UNR's 2023 Integrative Neuroscience Retreat and Symposium Oral Presentation	<i>Spring 2023</i>
Sierra Nevada Chapter of the Society for Neuroscience, 12th Annual Research Symposium Poster Presentation	<i>Fall 2022</i>
Siebens-Binz 2022 Tahoe Forum Poster Presentation	<i>Fall 2022</i>
Center for Vision Research – Vision: Science to Applications 2022 Poster Presentation	<i>Summer 2022</i>
Vision Sciences Society 2021 Annual Meeting Poster Presentation	<i>Summer 2021</i>
UNR's Integrative Neuroscience Program 'Gradventure' Oral Presentation	<i>Spring 2021, Spring 2024</i>
UNR's Winter 2020 Cognitive and Brain Sciences Symposium Oral Presentation	<i>Winter 2020</i>
Guest Lecture in Dr. Jennifer Hoy's Sensory Systems Course Oral Presentation	<i>Fall 2020</i>
Neuroscience 2019 (Society for Neuroscience annual meeting) Poster Presentation	<i>Fall 2019</i>
LRN Coalition EPSCoR Core Outreach Workshop Oral Presentation	<i>Summer 2019</i>
Vision Sciences Society 2019 Annual Meeting Poster Presentation of a labmate's poster in their absence	<i>Summer 2019</i>
UNR's 3rd Annual Integrative Neuroscience Symposium Poster Presentation	<i>Spring 2019</i>
Optical Society of America Fall Vision Meeting 2018 Poster Presentation	<i>Fall 2018</i>
UNR's Spring 2018 Cognitive and Brain Sciences and Neuroscience Symposium Oral Presentation	<i>Spring 2018</i>
LRN Coalition EPSCoR Core Outreach Workshop Oral Presentation	<i>Summer 2017</i>
2014 UA System Honors Undergraduate Research Conference Oral Presentation	<i>Spring 2014</i>
2014 UA Undergraduate Research and Creative Activity Conference Oral Presentation, received 3 rd place in Science and Mathematics division	<i>Spring 2014</i>
American Society for Cell Biology 2013 Annual Meeting Poster Presentation	<i>Winter 2013</i>
CBH Live! 2013 Oral Presentation	<i>Winter 2013</i>
2013 UA System Honors Undergraduate Research Conference Oral presentation, received 2 nd place in Biological Sciences category	<i>Spring 2013</i>
2013 UA Undergraduate Research and Creative Activity Conference Oral Presentation, received 3 rd place in Science and Mathematics division	<i>Spring 2013</i>
CBH Live! 2012 Oral Presentation	<i>Winter 2012</i>
2012 UA System Honors Undergraduate Research Conference Poster Presentation	<i>Spring 2012</i>
2012 UA Undergraduate Research and Creative Activity Conference Poster Presentation	<i>Spring 2012</i>

Reviewer Experience

Junior Reviewer for a research article submitted to Journal of Experimental Psychology: General	<i>Spring 2022</i>
Junior Reviewer for a research article submitted to eLife	<i>Summer 2021</i>
Junior Reviewer for a research article submitted to Current Biology	<i>Spring 2021</i>
Junior Reviewer for a review article submitted to Journal of Perceptual Imaging	<i>Fall 2017</i>

Other Skills

Physical handiwork, electrical circuitry, and creation of stimulus display apparatuses
3D-scanning, 3D-printing, and 3D-modeling
Analysis and writing of scientific papers
Presenting at lab meetings
Lab website upkeep
Use of Unity engine for research projects
Familiarity with Git
Numerous basic and advanced cellular, molecular, and genetic techniques