

Alyson L. Froehlich

Salt Lake City, UT
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EDUCATION

University of Utah, Dept of Psychology

Ph.D. (2008)

Areas of Concentration: Cognitive Neuroscience, Autism

Dissertation: "Categorization in autism"

M.S. (2004)

Thesis: "Effects of hippocampal lesions in pigeons on the serial reaction time task"

Honors B.A. (2001)

Honors Senior Thesis: "Local and global measures of attention and memory in an avian serial reaction time task"

TEACHING POSITIONS

University of Utah, Dept of Psychology

Assistant Professor Lecturer (July 2014 - present)

Adjunct Professor Lecturer (Aug 2011 - June 2014)

Independent Study Instructor (Spring 2006 - Spring 2009)

Graduate Instructor (Aug 2001 - May 2008)

Roles: design and teach face-to-face, fully online, and independent study courses

University of Utah, Martha Bradley Evans Center for Teaching Excellence

Higher Education Instructional Consultant (Jul 2013 – present)

Roles: design and teach hybrid, fully online, and MOOC courses; lead workshops (both CTE-sponsored events and invites from outside departments); conduct course observations and instructor consultations; organize university-wide symposiums; mentor Graduate Fellows

University of Maryland Global Campus, Dept of Psychology

Adjunct Professor (Mar 2016 – present)

Role: design and teach fully online courses

Study.com

Lesson Writer (Jan 2015 – Dec 2015)

Role: write short text lessons on various psychology concepts

COURSES TAUGHT

TEACHING FOCUSED

Teaching in Higher Education, **hybrid & fully online**

MBE Center for Teaching Excellence, University of Utah

Cyber Pedagogy, **fully online**

MBE Center for Teaching Excellence, University of Utah

Teaching Flipped, Canvas.net, **MOOC (Massive Open Online Course)**
MBE Center for Teaching Excellence, University of Utah

PSYCHOLOGY FOCUSED

Sensation and Perception, **fully online & face-to-face**
Dept of Psychology, University of Utah
Dept of Psychology, University of Maryland Global Campus

Brain and Behavior/ Biological Basis of Behavior, **face-to-face & fully online formats**
Dept of Psychology, University of Utah
Dept of Psychology, University of Maryland Global Campus

Cognition, **fully online, face-to-face, & independent study**
Dept of Psychology, University of Utah

Memory and Cognition, **fully online**
Dept of Psychology, University of Maryland Global Campus

Research Methods, **fully online & face-to-face lab section**
Dept of Psychology, University of Utah
Dept of Psychology, University of Maryland Global Campus

IN PREPARATION: TEACHING & PSYCHOLOGY FOCUSED

Teaching and Cognition, **fully online**
MBE Center for Teaching Excellence, University of Utah

HONORS, AWARDS, AND FELLOWSHIPS – TEACHING FOCUSED

Higher Education Teaching Specialist designation (2006)

Center for Teaching and Learning Excellence, University of Utah

Description: “The Higher Education Specialist (HETS) Designation is designed to enhance the instructional abilities of Faculty and Graduate Students who are working, or desire to work, in an institution of higher education. Through participation in a variety of courses, workshops, and teaching assessments, candidates will learn to implement best practices for teaching in higher education.”
cte.utah.edu/hets

Teaching and Learning Technologies Online Course Development grant (2013)

Teaching and Learning Technologies, University of Utah

Martha Bradley Evans Center for Teaching Excellence, University of Utah

Description: This award provided funding and professional support to create a fully online Research Methods course to be offered through the Department of Psychology.

University TA Scholars Program (2005 – 2006)

Martha Bradley Evans Center for Teaching Excellence, University of Utah

Description: “The TA Scholars Program consists of an interdisciplinary cohort of outstanding graduate students with at least one year of experience teaching undergraduates. Over the course of two semesters, the TA Scholars Program provides graduate student instructors the opportunity to explore various pedagogical

issues. Each TA Scholar also develops an individual project that addresses a specific teaching or learning need of his or her department.”

Project: Teaching Development Group. This group met regularly as a means of collaboration and support of Psychology Graduate Student Instructors.

Letters of Recognition for Teaching Excellence (2002, 2003, 2005, 2007)

Dept of Psychology, University of Utah

Description: These letters are awarded by the Graduate Committee as a means of recognizing graduate instructors for exceptional student course evaluations.

CONFERENCE AND WORKSHOP ATTENDANCE/ TRAININGS – MOST RECENT

HyFlex Collaborative Conference (2023)

Host: School of Education, University at Albany

Description: A conference on the HyFlex teaching modality.

Teaching for Learning (T4L) (2019, 2020, 2022, 2023)

Host: Intermountain Consortium for Faculty Development

Description: A faculty development conference hosted by a different member institution of the Intermountain Consortium for Faculty Development each year.

Presentations: The Power of Prediction (2019); Retrieval Practice: Pumping Iron for Learning (2020); Active Teaching: Tips for Lecturing from the Science of Learning (2022); How Background Knowledge Supports New Learning (2023)

Learning & the Brain (2019, 2022)

Host: Learning & the Brain <https://www.learningandthebrain.com/>

Description: A conference focused on the science of learning and how the brain learns.

Instructurecon (2015, 2016, 2017, 2018, 2019)

Host: Instructure (producer of the learning management system Canvas) <https://www.instructure.com/>

Description: An edtech conference. <https://www.canvaslms.com/news/instructurecon/>

Utah: The State of OER (2018)

Host: Utah System of Higher Education, Open Educational Resources Committee

<http://oerutah.org/index.php/about-oer/>

Description: A statewide conference on open educational resources in higher education.

<http://oerutah.org/index.php/oer-forum/>

Collaborating at the Centers: A Workshop on STEM Transformation (2015)

Host: POD Network in Higher Education & Association of Public and Land-grant Universities, STEM Education Network <https://podnetwork.org/> <https://serc.carleton.edu/StemEdCenters/index.html>

Description: A workshop to bring together directors and senior leaders of STEM Education Centers and of interdisciplinary Teaching and Learning Centers in an effort to enhance each other’s efforts on campus, across institutions, and nationally. <https://osf.io/pknbf>

I also regularly attend teaching- and diversity-related trainings and workshops held at the University of Utah and at Salt Lake Community College.

I also regularly teach a variety of teaching-related workshops for the Martha Bradley Evans Center for Teaching Excellence at the University of Utah. Some of the topics include the following:

- “Active Teaching: Tips for Presenting Information from the Science of Learning”

- “Teaching Practices for Students with Brains”
- “Cognitive Load”
- “Making Learning Stick”
- “Background Knowledge and Working Memory”
- “The Science of Note-Taking”
- “Transparent Teaching”
- “Breathing New Life into Your Online Course”
- “From Face-to-Face to Online”
- “The Versatile Discussion Board”
- “Best Practices for Adult Learning”
- “Backward Course Design & Learning Outcomes”
- “Active Learning”

RESEARCH EXPERIENCE

Longitudinal Neuroimaging of Brain Development in Autism

University of Utah / University of Wisconsin-Madison
P.I.: Janet Lainhart

Research Associate & Project Coordinator (2006 – 2014)

Roles: supervised lab of research assistants, graduate students, and a fellow research associate; coordinated participant participation; assisted with grant applications; managed Institutional Review Board applications; lead and assisted with publication writing and submissions; designed, conducted, analyzed, and published studies; administered the Autism Diagnostic Observation Schedule, the Autism Diagnostic Interview Revised, the Wechsler Intelligence Scales, as well as other behavioral assessments; organized events

Autism Social Skills Groups

University of Utah, Behavioral Health Clinic

Greatest Gals Young Women’s Autism Social Skills Group

Group Leader (2008 – 2014)

Role: organized and assisted with group meetings and social events, including dinner dance parties with the young men of the Adult Autism Social Skills Group

Adult Autism Social Skills Group

Group Leader (2005 – 2014)

Role: assisted with group meetings and social events

Adolescent Autism Social Skills Group

Group Leader (2006 – 2007)

Role: assisted with group meetings and social events

Comparative Cognition

University of Utah, Dept of Psychology
P.I.: Charlie Shimp

Graduate Student Researcher (1999 – 2006)

Roles: designed, conducted, analyzed, and published studies; managed research assistants

Neurobiology of Learning and Memory

University of Utah, Dept of Psychology

P.I.: Raymond Kesner

Research Assistant (1999 – 2001)

Role: engaged in data collection

PUBLICATIONS

TEACHING RELATED

Froehlich, A., & Rogers, E. B. (2022). Four keys to unlocking equitable learning: Retrieval, spacing, interleaving, and elaborative encoding. In L. Parson and C. C. Ozaki (Eds.), *Teaching and learning for social justice and equity in higher education: Virtual Settings, Vol 4*. Palgrave.

Ziegenfuss, D., Furse, C., & Froehlich, A. (2018). Teach-Flipped: A faculty development MOOC on how to teach flipped. *ASEE Annual Conference and Exposition, Conference Proceedings, 2018-June*.

OTHER FIRST AUTHORED

Froehlich, A. L., Anderson, J. S., Bigler, E. D., Miller, J. S., Lange, N. T., DuBray, M. B., Cooperrider, J. R., Cariello, A., Nielsen, J. A., & Lainhart, J. E. (2012). Intact prototype formation but impaired generalization in autism. *Research in Autism Spectrum Disorders, 6*, 921 – 930. PMC3267426

Froehlich, A. L., Herbranson, W. T., Loper, J. D., Wood, D. M., & Shimp, C. P. (2004). Anticipating by pigeons depends on local statistical information in a serial response time task. *Journal of Experimental Psychology: General, 133*, 31-45.

OTHER COAUTHORED

Dean, D. C., Lange, N., Travers, B. G., Prigge, M. B., Matsunami, N., Kellett, K. A., Freeman, A., Kane, K. L., Adluru, N., Tromp, D. P., Destiche, D. J., Samsin, D., Zielinski, B. A., Fletcher, P. T., Anderson, J. S., Froehlich, A. L., Leppert, M. F., Bigler, E. D., Lainhart, J. E., & Alexander, A. L. (2017). Multivariate characterization of white matter heterogeneity in autism spectrum disorder. *Neuroimage: Clinical, 14*, 54 - 66.

Lalani, S. J., Duffield, T. C., Trontel, H. G., Bigler, E. D., Abildskov, T. J., Froehlich, A., Prigge, M. B. D., Travers, B. G., Anderson, J. S., Zielinski, B. A., Alexander, A., Lange, N., & Lainhart, J. E. (2017). Auditory attention in autism spectrum disorder: An exploration of volumetric magnetic resonance imaging findings. *Journal of Clinical Experimental Neuropsychology*. Advance online publication. doi:10.1080/13803395.2017.1373746

McLaughlin, K., Travers, B. G., Dadalko, O. I., Dean, D. C. 3rd, Tromp, D., Adluru, N., Destiche, D., Freeman, A., Prigge, M. D., Froehlich, A., Duffield, T. C., Zielinski, B. A., Bigler, E. D., Lange, N., Anderson, J. S., Alexander, A. L., & Lainhart, J. E. (2017). Longitudinal development of thalamic and internal capsule microstructure in autism spectrum disorder. *Autism Research*. Advance online publication. doi:10.1002/aur.1909

- Dean, D. C., Travers, B. G., Adluru, N., Tromp, D. P. M., Destiche, D. J., Samsin, D., Prigge, M. B., Zielinski, B. A., Fletcher, P. T., Anderson, J. S., Froehlich, A. L., Bigler, E. D., Lange, N., Lainhart, J. E., & Alexander, A. L. (2016). Investigating the microstructural correlation of white matter in autism spectrum disorder. *Brain Connectivity*, 6(5), 415 – 33.
- Green, R. R., Bigler, E. D., Froehlich, A., Prigge, M. B., Travers, B. G., Cariello, A. N., Zielinski, B. A., Alexander, A., Lange, N., & Lainhart, J. E. (2016). Beery VMI performance in autism spectrum disorder. *Child Neuropsychology*, 22(7), 795 - 817. PMID26292997
- Travers, B. G., Bigler, E. D., Duffield, T. C., Prigge, M. D., Froehlich, A. L., Lange, N., Alexander, A. L., & Lainhart, J. E. (2016). Longitudinal development of manual motor ability in autism spectrum disorder from childhood to mid-adulthood relates to adaptive daily living skills. *Developmental Science*. Advanced online publication. PMCID: PMC5055420
- Jantz, P. B., Bigler, E. D., Froehlich, A. L., Prigge, M. B., Cariello, A. N., Travers, B. G., Anderson, J., Zielinski, B. A., Alexander, A. L., Lange, N., & Lainhart, J. E. (2015). Wide Range Achievement Test in autism spectrum disorder: Test-retest stability. *Psychological Reports*, 116, 674 – 684.
- Lange, N., Travers, B. G., Bigler, E. D., Prigge, M. B., Froehlich, A. L., Nielsen, J. A., Cariello, A. N., Zielinski, B. A., Anderson, J. S., Fletcher, P. T., Alexander, A. L., & Lainhart, J. E. (2015). Longitudinal volumetric brain changes in autism spectrum disorder ages 6-35 years. *Autism Research*, 8, 82 – 93.
- Travers, B. G., Bigler, E. D., Tromp, do P. M., Adluru, N., Destiche, D., Samsin, D., Froehlich, A., Prigge, M. D., Duffield, T. C., Lange, N., Alexander, A. L., & Lainhart, J. E. (2015). Brainstem white matter predicts individual differences in manual motor difficulties and symptom severity in autism. *Journal of Autism and Developmental Disorders*, 45, 3030 – 3040.
- Travers, B. G., Tromp, do P. M., Adluru, N., Lange, N., Destiche, D., Ennis, C., Nielsen, J. A., Froehlich, A., Prigge, M. D., Fletcher, P. T., Anderson, J. S., Zielinski, B. A., Bigler, E. D., Lainhart, J. E., & Alexander, A. L. (2015). Atypical development of white matter microstructure of the corpus callosum in males with autism: A longitudinal investigation. *Molecular Autism*, 6(15). DOI: 10.1186/s13229-015-0001-8
- Trontel, H. G., Duffield, T. C., Bigler, E. D., Abildskov, T. J., Froehlich, A., Prigge, M. B., Travers, B. G., Anderson, J. S., Zielinski, B. A., Alexander, A. L., Lange, N., & Lainhart, J. E. (2015). Mesial temporal lobe and memory function in autism spectrum disorder: An exploration of volumetric findings. *Journal of Clinical Experimental Neuropsychology*, 37, 178 – 192.
- Travers, B. G., Bigler, E. D., Tromp, do P. M., Adluru, N., Froehlich, A. L., Ennis, C., Lange, N., Nielsen, J. A., Prigge, M. B., Alexander, A. L., & Lainhart, J. E. (2014). Longitudinal processing speed impariments in males with autism and the effects of white matter microstructure. *Neuropsychologia*, 53, 137 – 145.
- Zielinski, B. A., Prigge, M. B. D., Nielsen, J. A., Froehlich, A. L., Abildskov, T. J., Anderson, J. S., Fletcher, P. T., Zygmunt, K. M., Travers, B. G., Lange, N., Alexander, A. L., Bigler, E. D., & Lainhart, J. E. (2014). Longitudinal changes in cortical thickness in autism and typical development. *Brain*, 137, 1799 - 1812. PMC4032101
- Duffield, T. C., Trontel, H. G., Bigler, E. D., Froehlich, A., Prigge, M. B., Travers, B., Green, R. R., Cariello, A. N., Cooperrider, J., Nielsen, J., Alexander, A., Anderson, J., Fletcher, P. T., Lange, N., Zielinski, B., Lainhart, J. (2013). Neuropsychological investigation of motor impairments in autism. *Journal of Clinical Experimental Neuropsychology*, 35, 867 – 881.

- Prigge, M. B., Bigler, E. D., Fletcher, P. T., Zielinski, B. A., Ravichandran, C., Anderson, J., Froehlich, A., Abildskov, T., Papadopolous, E., Maasberg, K., Nielsen, J. A., Alexander, A. L., Lange, N., Lainhart, J. (2013). Longitudinal Heschl's gyrus growth during childhood and adolescence in typical development and autism. *Autism Research*, 6, 78 – 90.
- Prigge, M. D., Lange, N., Bigler, E. D., Merkley, T. L., Neeley, E. S., Abildskov, T. J., Froehlich, A. L., Nielsen, J. A., Cooperrider, J. R., Cariello, A. N., Ravichandran, C., Alexander, A. L., & Lainhart, J. E. (2013). Corpus callosum area in children and adults with autism. *Research in Autism Spectrum Disorders*, 7, 221 - 234. PMC3487714
- Trontel, H. G., Duffield, T. C., Bigler, E. D., Froehlich, A., Prigge, M. B., Nielsen, J. A., Cooperrider, J. R., Cariello, A. N., Travers, B. G., Anderson, J. S., Zielinski, B. A., Alexander, A., Lange, N., Lainhart, J. E. (2013). Fusiform Correlates of Facial Memory in Autism. *Behavioral Sciences*, 3, 348 – 371.
- Zielinski, B. A., Anderson, J. S., Froehlich, A. L., Prigge, M. B. D., Nielsen, J. A., Cooperrider, J. R., Cariello, A. N., Fletcher, P. T., Alexander, A. L., Lange, N., Bigler, E. D., & Lainhart, J. E. (2012). scMRI reveals large-scale brain network abnormalities in autism. *PLoS ONE*, 7(11), e49172. PMC3504046
- Anderson, J. S., Nielsen, J. A., Froehlich, A. L., DuBray, M. B., Druzgal, T. J., Cariello, A. N., Cooperrider, J. R., Zielinski, B. A., Ravichandran, C., Fletcher, P. T., Alexander, A. L., Bigler, E. D., Lange, N., & Lainhart, J. E. (2011). Functional connectivity magnetic resonance imaging classification of autism. *Brain*, 134, 3742-3754. PMC3235557
- Southwick, J. S., Bigler, E. D., Froehlich, A., Dubray, M. B., Alexander, A. L., Lange, N., & Lainhart, J. E. (2011). Memory functioning in children and adolescents with autism. *Neuropsychology*, 25, 702 – 710.
- Anderson, J. S., Druzgal, T. J., Froehlich, A., Dubray, M. B., Lange, N., Alexander, A. L., Abildskov, T., Nielsen, J. A., Cariello, A. N., Cooperrider, J. R., Bigler, E. D., & Lainhart, J. E. (2010). Decreased interhemispheric functional connectivity in autism. *Cerebral Cortex*, 21, 1134-1146. PMC3077433
- Anderson, J. S., Lange, N., Froehlich, A., DuBray, M. B., Druzgal, T. J., Froimowitz, M., Alexander, A. L., Bigler, E. D., & Lainhart, J. E. (2010). Decreased left posterior insular activity during auditory language in autism. *American Journal of Neuroradiology*, 31, 131-139. PMC2807479
- Fletcher, P. T., Whitaker, R. T., Tao, R., DuBray, M. B., Froehlich, A. L., Ravichandran, C., Alexander, A. L., Bigler, E. D., Lange, N., & Lainhart, J. E., (2010). Microstructural connectivity of the arcuate fasciculus in adolescents with high-functioning autism. *Neuroimage*, 51, 1117-1125. PMC2966943
- Lange, N., DuBray, M. B., Lee, J. E., Froimowitz, M. P., Froehlich, A., Adluru, N., Wright, B., Ravichandran, C., Fletcher, P. T., Bigler, E. D., Alexander, A. L., & Lainhart, J. E. (2010). Atypical diffusion tensor hemispheric asymmetry in autism. *Autism Research*, 3, 350-358. PMC3215255
- Shimp, C. P., Froehlich, A. L., & Herbranson, W. T. (2007). Information processing by pigeons (*Columba livia*): Incentive as information. *Journal of Comparative Psychology*, 121, 73-81.
- Shimp, C. P., Herbranson, W. T., Fremouw, T., Froehlich, & A. L. (2006). Rule-learning, memorization strategies, switching of attention between local and global levels of perceptual analysis, and optimality in avian visual categorization. In E. A. Wasserman & T. R. Zentall (Eds.), *Comparative Cognition: Experimental Explorations of Animal Intelligence*, pp. 388-404. Oxford, England: Oxford University Press.

B. Jack White Memorial Award (2006)

Dept of Psychology, University of Utah

Description: “The award is given annually to an advanced psychology graduate student who has shown overall excellence in performance, taking into account coursework, research productivity, teaching, and departmental service.”

<http://www.psych.utah.edu/graduate/funding.php>

Clayton Graduate Research Award (2005)

Dept of Psychology, University of Utah

Description: “Represent efforts to support outstanding graduate student research and to further the professional development and degree progress of graduate students.”

<http://www.psych.utah.edu/graduate/funding.php>

Project: “Exemplar vs. Prototype Categorization Processes in Autism”

Nagoya International Scholars Program (2004)

University of Utah

Description / Project: This award partially supported my trip with two Psychology faculty and two other Psychology graduate students to study the Andean epistemology within the Sacred Valley of Peru. We traveled with a local paco and met with the native Q’ero people.

Honors Bachelor’s Degree (1997 - 2001)

Honors College, University of Utah

Description: “The Honors Bachelor’s Degree is the highest undergraduate degree conferred by the University of Utah.” “The liberal arts and sciences tradition of the Honors College is a curriculum and community in the truest sense of the word: *Liberal* has the same root as *liberate*. We encourage students to embrace challenge, explore multiple perspectives and venture out to find a place in the world.”

<http://honors.utah.edu/>

Project: “Local and global measures of attention and memory in an avian serial reaction time task”

Undergraduate Research Opportunity Program (2000 – 2001)

Office of Undergraduate Research, University of Utah

Description: The Undergraduate Research Opportunities Program (UROP) provides undergraduate students and faculty members the opportunity to work together on research or creative projects.

<http://our.utah.edu/for-students/urop/>

Project: “Cognitive and Neurobiological Approaches to Learning and Memory in Nonhuman Animals”

Dean’s List (Spring 1999, Fall 2000, Spring 2001)

University of Utah

Description: “To qualify for the Dean’s List undergraduate students must receive a term GPA of 3.5 or higher for 12.0 or more graded credit hours.”

MEMBERSHIPS

American Psychological Association (2022 – 2023)

International Society for Autism Research (2006 - 2014)

Society for Neuroscience (2002 - 2005)

Cognitive Neuroscience Society (2003)

Utah Students for a Free Tibet (2003)

SERVICE

Envision 2030 (task force to generate a report on the future of pedagogy, technology, and classrooms to inform growth and development at the U of U)

Associate Provost task force, University of Utah (2024)

Group Leader, Greatest Gals Young Women's Autism Social Skills Group

Behavioral Health Clinic, University of Utah (2008 - 2014)

Group Leader, Adult Autism Social Skills Group

Behavioral Health Clinic, University of Utah (2005 - 2014)

Group Leader, Adolescent Autism Social Skills Group

Behavioral Health Clinic, University of Utah (2006 - 2007)

Group Leader and Founder, Teaching Development Group for graduate students

University of Utah (2006 - 2007)

Cognitive Neuroscience Area Student Representative to the Graduate Committee

Dept of Psychology, University of Utah (2005 - 2006)

Member of the Executive Board for Utah Students for a Free Tibet

University of Utah (2003)

Student Representative to the Cognitive Neuroscience Area Committee

Dept of Psychology, University of Utah (2002 - 2003)