



**Exponent<sup>®</sup>**  
Engineering & Scientific Consulting

**Julie Freschl, Ph.D.**

Scientist | Human Factors  
Menlo Park  
+1-650-688-6924 | [jfreschl@exponent.com](mailto:jfreschl@exponent.com)

## Professional Profile

Dr. Freschl has extensive expertise in human vision perception and cognition in individuals with and without neurodevelopmental disorders. Dr. Freschl's research background critically relies on her expertise in psychophysical, eye-tracking, and neuroimaging techniques as well as clinical assessments to understand the relationship between visual perception, cognitive processes, and human behavior. As a human factors scientist, her work seeks to understand how perception and cognition impacts how one interprets and interacts with various products and their environment.

Prior to joining Exponent, Dr. Freschl received her PhD in Developmental and Brain Sciences, with an emphasis in Cognitive Neuroscience from the University of Massachusetts Boston and was a post-doctoral fellow at the Smith-Kettlewell Eye Research Institute. Specifically, her doctoral dissertation focused on the development of visual temporal perception and the role of neural oscillations – understanding how dynamic, visual input is organized across time into meaningful scenes and events in young children and adults with and without autism spectrum disorder. During her time as a post-doc at Smith-Kettlewell, Dr. Freschl continued to investigate visual perception – understanding how individuals with eye disorders, such as amblyopia, perceive their visual environment by utilizing eye-tracking to measure pupillary dynamics and gaze patterns.

## Academic Credentials & Professional Honors

Ph.D., Developmental and Brain Sciences, University of Massachusetts, Boston, 2021

B.A., University of California, Irvine, 2015

NIH T32 Training Grant (Smith-Kettlewell Eye Research Institute)

Cold Spring Harbor Laboratory Course on Vision: A Platform for Linking Circuits, Behavior and Perception

## Publications

Freschl, J., Al Azizi, L., Balboa, L., Kaldy, Z., & Blaser, E. (2022) The development of peak alpha frequency from infancy to adolescence and its role in visual temporal processing: A meta-analysis. *Developmental Cognitive Neuroscience*.

Freschl, J., Melcher, D., Carter, A., Kaldy, Z., & Blaser, E. (2020). Seeing a Page in a Flipbook: Shorter Visual Temporal Integration Windows in 2-Year-Old Toddlers with Autism Spectrum Disorder. *Autism Research: Official Journal of the International Society for Autism Research*.

Freschl, J., Melcher, D., Kaldy, Z., & Blaser, E. (2019). Visual temporal integration windows are adult-like

in 5- to 7-year-old children. *Journal of Vision*, 19(7), 5.

## **Presentations**

Freschl J., Al Azizi L., Balboa L., Kaldy Z., Blaser E. (2021). The development of occipital peak alpha frequency and its role in visual temporal processing: a Meta-analysis. Annual Meeting of Vision Sciences Society (VSS), St. Pete Beach, Florida.

Freschl J., Al Azizi L., Balboa L., Kaldy Z., Blaser E. (2021). The development of occipital peak alpha frequency: a Meta-analysis. Biennial Meeting of the Society for Research in Child Development.

Freschl, J., Melcher, D., Kaldy, Z., & Blaser, E. (2020). Visual temporal integration windows are longer in infants. Annual Meeting of Vision Sciences Society (VSS), St. Pete Beach, Florida.

Freschl, J., Melcher, D., Carter, A., Dhungana, S., Kaldy, Z., & Blaser, E. (2019). Visual temporal integration windows in 2-year-old toddlers with and without ASD. Annual Meeting of Vision Sciences Society (VSS), St. Pete Beach, Florida.

Freschl, J., Melcher, D., Kaldy, Z., & Blaser, E. (2018). Visual temporal integration windows are adult-like in typically developing 5-7-year-old children. Annual Meeting of Vision Sciences Society (VSS), St. Pete Beach, Florida.

Freschl, J., Melcher, D., Carter, A. S., Kaldy, Z., & Blaser, E. (2018). Visual Temporal Integration Windows are longer in 2-year-old toddlers with autism spectrum disorder. International Conference on Infant Studies, Philadelphia, PA.

Freschl, J., Maniar A., Shah A., Patterson, J.V., Bunney W.E., (2015). Acoustic startle response in patients with schizophrenia and bipolar disorder. Society for Neuroscience, Chicago, IL.