



Jennifer Bruno

Instructor, Psychiatry and Behavioral Sciences - Center for Interdisciplinary Brain Sciences Research

Bio

BIO

Translational interdisciplinary researcher investigating neurocognitive correlates and potential biomarkers of neurodevelopmental disorders, especially autism spectrum disorders and fragile X syndrome, with the goal of advancing clinical care and health policy.

ACADEMIC APPOINTMENTS

- Instructor, Psychiatry and Behavioral Sciences - Center for Interdisciplinary Brain Sciences Research
- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Young Investigator Award, National Fragile X Foundation (2018)
- CNI Seed-grant Award, Stanford Center for Cognitive and Neurobiological Imaging (2016)
- National Institute of Mental Health T32 postdoctoral training funding, Stanford University (2012)
- Helena Anna Henzl Gabor Young Women in Science Fellowship, Stanford University (2009)
- Morkovin Graduate School Fellowship, University of Southern California (2007-2008)
- Dissertation Award, University of Southern California (2007)
- Fellowship for advanced graduate study, Developmental Area, Psychology Department, University of Southern California (2006-2007)

PROFESSIONAL EDUCATION

- Postdoctoral Fellowship, Stanford University , Cognitive Neuroscience (2014)
- Doctor of Philosophy, University of Southern California , Developmental Psychology (2008)
- M.A., University of Southern California , Developmental Psychology (2005)
- B.A., Temple University , Psychology (2002)

LINKS

- Center for Interdisciplinary Brain Sciences Research: <http://cibsr.stanford.edu/>
- "Brain scans in kids with fragile X syndrome" Scope article: <http://scopeblog.stanford.edu/2017/09/21/brain-scans-may-predict-future-abilities-of-kids-with-fragile-x-syndrome/>
- "Brain scans reveal subtypes of fragile X syndrome in boys" Spectrum article: <https://spectrumnews.org/news/brain-scans-reveal-subtypes-fragile-x-syndrome-boys/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Dr. Bruno is a translational researcher at the interface of developmental cognitive neuropsychology and neurobiology. Her research is aimed at understanding the neural basis of intellectual and developmental disorders with goals of improving early diagnosis using biomarkers and designing and testing targeted interventions. Current research projects include longitudinal investigations of neurobiological and behavioral outcomes in Fragile X Syndrome and autism spectrum disorders. Dr. Bruno is also developing adaptable non-constraining functional near-infrared spectroscopy (fNIRS) paradigms to assess the neural circuitry underlying cognition in healthy typically developing individuals and in individuals with neurodevelopmental disorders. Working towards the goal of informing the design of targeted treatments while providing important outcome and progress metrics, Dr. Bruno's research includes infant developmental studies to uncover early, objective biomarkers and epidemiological studies to investigate brain functioning correlates in populations.

Publications

PUBLICATIONS

- **Closing the Gender Gap in Fragile X Syndrome: Review on Females with FXS and Preliminary Research Findings.** *Brain sciences*
Bartholomay, K. L., Lee, C. H., Bruno, J. L., Lightbody, A. A., Reiss, A. L.
2019; 9 (1)
- **Brain circuitry, behavior, and cognition: A randomized placebo-controlled trial of donepezil in fragile X syndrome.** *Journal of psychopharmacology (Oxford, England)*
Bruno, J. L., Hosseini, S. H., Lightbody, A. A., Manchanda, M. K., Reiss, A. L.
2019: 269881119858304
- **Mind over motor mapping: Driver response to changing vehicle dynamics.** *Human brain mapping*
Bruno, J. L., Baker, J. M., Gundran, A., Harbott, L. K., Stuart, Z., Piccirilli, A. M., Hosseini, S. M., Gerdes, J. C., Reiss, A. L.
2018
- **Altered Brain Network Segregation in Fragile X Syndrome Revealed by Structural Connectomics** *CEREBRAL CORTEX*
Bruno, J. L., Hosseini, S. M., Saggari, M., Quintin, E., Raman, M. M., Reiss, A. L.
2017; 27 (3): 2249-2259
- **Longitudinal identification of clinically distinct neurophenotypes in young children with fragile X syndrome.** *Proceedings of the National Academy of Sciences of the United States of America*
Bruno, J. L., Romano, D., Mazaika, P., Lightbody, A. A., Hazlett, H. C., Piven, J., Reiss, A. L.
2017
- **The cognitive developmental profile associated with fragile X syndrome: A longitudinal investigation of cognitive strengths and weaknesses through childhood and adolescence.** *Development and psychopathology*
Quintin, E., Jo, B., Hall, S. S., Bruno, J. L., Chromik, L. C., Raman, M. M., Lightbody, A. A., Martin, A., Reiss, A. L.
2016; 28 (4): 1457-1469
- **Altered Brain Network Segregation in Fragile X Syndrome Revealed by Structural Connectomics** *Cerebral Cortex*
Bruno, J. L., Hosseini, S., Saggari, M., Quintin, E., Raman, M., Reiss, A. L.
2016
- **Specific effect of the fragile-X mental retardation-1 gene (FMR1) on white matter microstructure** *BRITISH JOURNAL OF PSYCHIATRY*
Green, T., Barnea-Goraly, N., Raman, M., Hall, S. S., Lightbody, A. A., Bruno, J. L., Quintin, E., Reiss, A. L.
2015; 207 (2): 143-148
- **Aberrant Face and Gaze Habituation in Fragile X Syndrome** *AMERICAN JOURNAL OF PSYCHIATRY*
Bruno, J. L., Garrett, A. S., Quintin, E., Mazaika, P. K., Reiss, A. L.
2014; 171 (10): 1099-1106
- **Aberrant basal ganglia metabolism in fragile X syndrome: a magnetic resonance spectroscopy study** *JOURNAL OF NEURODEVELOPMENTAL DISORDERS*

Bruno, J. L., Shelly, E. W., Quintin, E., Rostami, M., Patnaik, S., Spielman, D., Mayer, D., Gu, M., Lightbody, A. A., Reiss, A. L.
2013; 5

- **Phonological processing is uniquely associated with neuro-metabolic concentration** *NEUROIMAGE*
Bruno, J. L., Lu, Z., Manis, F. R.
2013; 67: 175-181
- **Altered resting state functional brain network topology in chemotherapy-treated breast cancer survivors** *NEUROBIOLOGY OF DISEASE*
Bruno, J., Hosseini, S. M., Kesler, S.
2012; 48 (3): 329-338
- **Sensitivity to orthographic familiarity in the occipito-temporal region** *NEUROIMAGE*
Bruno, J. L., Zumberge, A., Manis, F. R., Lu, Z., Goldman, J. G.
2008; 39 (4): 1988-2001
- **Auditory word identification in dyslexic and normally achieving readers** *JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY*
Bruno, J. L., Manis, F. R., Keating, P., Sperling, A. J., Nakamoto, J., Seidenberg, M. S.
2007; 97 (3): 183-204
- **fNIRS measurement of cortical activation and functional connectivity during a visuospatial working memory task.** *PLoS ONE*
Baker, J. M., Bruno, J. L., Gundran, A., Hosseini, S. M., Reiss, A. L.
2018; 13 (8): e0201486
- **Neural, physiological, and behavioral correlates of visuomotor cognitive load** *Scientific Reports*
Hosseini, S., Bruno, J. L., Baker, J. M., Gundran, A., Harbott, L. K., Gerdes, J., Reiss, A. L.
2017; 8866
- **Neural, physiological, and behavioral correlates of visuomotor cognitive load.** *Scientific reports*
Hosseini, S. M., Bruno, J. L., Baker, J. M., Gundran, A., Harbott, L. K., Gerdes, J. C., Reiss, A. L.
2017; 7 (1): 8866
- **Estimating individual contribution from group-based structural correlation networks.** *NeuroImage*
Saggar, M., Hosseini, S. M., Bruno, J. L., Quintin, E., Raman, M. M., Kesler, S. R., Reiss, A. L.
2015; 120: 274-284
- **Cognitive outcomes in pediatric heart transplant recipients bridged to transplantation with ventricular assist devices** *JOURNAL OF HEART AND LUNG TRANSPLANTATION*
Stein, M. L., Bruno, J. L., Konopacki, K. L., Kesler, S., Reinhartz, O., Rosenthal, D.
2013; 32 (2): 212-220
- **Neuroimaging in Genetic Disorders** *Handbook of Neurodevelopmental and Genetic Disorders in Children*
Kesler, S., Wilde, E., Bruno, J., Bigler, E.
Gilford Press.2010; 2