



## Mira Raman

Rsch Data Analyst 2, Psychiatry and Behavioral Sciences - Interdisciplinary Brain Sciences

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### Bio

#### BIO

My career has centered around neuroImaging with a primary emphasis on structural MRI. I have been with the Division of Interdisciplinary Brain Science Research, on and off since 2008. Currently, my work is focused in The BRIDGe Lab, on structural, functional, and DTI imaging studies of children and adolescents with RASopathies.

#### CURRENT ROLE AT STANFORD

Neuroimaging Data Analyst at The BRIDGe Lab, The Division of Interdisciplinary Brain Science Research, Dept. of Psychiatry, School of Medicine.

#### EDUCATION AND CERTIFICATIONS

- BS, University of Southern California , Biomedical Engineering (1995)
- MS, University of Virginia , Biomedical Engineering (1998)
- PhD (not completed), University of California - Los Angeles , Biomedical Physics (2000)

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### Publications

#### PUBLICATIONS

- **T1w/T2w ratio as an in vivo proxy for reduced intracortical myelin content in youth with RASopathies: a cross-sectional study.** *Biological psychiatry. Cognitive neuroscience and neuroimaging*  
Plank, J. R., Pardej, S. K., Raman, M. M., McNab, J., Green, T.  
2026
- **A Multi-parametric MRI and Machine Learning Study of Cerebellar Structure in Youth with Neurofibromatosis Type 1.** *Cerebellum (London, England)*  
Pardej, S. K., Plank, J. R., Raman, M. M., Green, T.  
2026; 25 (1): 17
- **T1w/T2w ratio suggests reduced intracortical myelin content in youth with RASopathies.** *medRxiv : the preprint server for health sciences*  
Plank, J. R., Pardej, S. K., Raman, M. M., McNab, J., Green, T.  
2025
- **Subcortical shape alterations in children with Noonan syndrome spectrum: insights into genotype-phenotype associations.** *Cerebral cortex (New York, N.Y. : 1991)*  
Serur, Y., McGhee, C. A., Avital, N., Russo, O., Raman, M. M., Green, T.  
2025; 35 (8)
- **Quantitative T1 mapping indicates elevated white matter myelin in children with RASopathies.** *Biological psychiatry*  
Plank, J. R., Gozdas, E., Bruno, J., McGhee, C. A., Wu, H., Raman, M. M., Saggat, M., Green, T.

2025

- **Elucidating Microstructural Alterations in Neurodevelopmental Disorders: Application of Advanced Diffusion-Weighted Imaging in Children With Rasopathies.** *Human brain mapping*  
Plank, J. R., Gozdas, E., Dai, E., McGhee, C. A., Raman, M. M., Green, T.  
2024; 45 (17): e70087
- **Impact of pathogenic variants of the Ras-mitogen-activated protein kinase pathway on major white matter tracts in the human brain.** *Brain communications*  
Siqueiros-Sanchez, M., Dai, E., McGhee, C. A., McNab, J. A., Raman, M. M., Green, T.  
2024; 6 (4): fcae274
- **RASopathies influences on neuroanatomical variation in children.** *Biological psychiatry. Cognitive neuroscience and neuroimaging*  
McGhee, C. A., Honari, H., Siqueiros-Sanchez, M., Serur, Y., van Staaldunin, E. K., Stevenson, D., Bruno, J. L., Raman, M. M., Green, T.  
2024
- **THE INTERACTIVE EFFECTS OF POLYGENIC RISK SCORES AND SINGLE GENE DISORDERS ON THE SUBCORTICAL STRUCTURE**  
Serur, Y., Rai, B., Raman, M., McGee, C., Green, T.  
ELSEVIER.2023: S256-S257
- **Novel effects of Ras-MAPK pathogenic variants on the developing human brain and their link to gene expression and inhibition abilities.** *Translational psychiatry*  
Rai, B., Naylor, P. E., Siqueiros-Sanchez, M., Wintermark, M., Raman, M. M., Jo, B., Reiss, A. L., Green, T.  
2023; 13 (1): 245
- **Novel effects of Ras-MAPK pathogenic variants on the developing human brain and their link to gene expression and inhibition abilities.** *Research square*  
Rai, B., Naylor, P., Sanchez, M. S., Wintermark, M., Raman, M., Jo, B., Reiss, A., Green, T.  
2023
- **PTPN11 Mutations in the Ras-MAPK Signaling Pathway Affect Human White Matter Microstructure.** *Cerebral cortex (New York, N.Y. : 1991)*  
Fattah, M., Raman, M. M., Reiss, A. L., Green, T.  
2020
- **Genetic and environmental influences on structural brain measures in twins with autism spectrum disorder** *MOLECULAR PSYCHIATRY*  
Hegarty, J. P., Pegoraro, L. F. L., Lazzeroni, L. C., Raman, M. M., Hallmayer, J. F., Monterrey, J. C., Cleveland, S. C., Wolke, O. N., Phillips, J. M., Reiss, A. L., Hardan, A. Y.  
2020; 25 (10): 2556–66
- **Genetic and environmental influences on structural brain measures in twins with autism spectrum disorder.** *Molecular psychiatry*  
Hegarty, J. P., Pegoraro, L. F., Lazzeroni, L. C., Raman, M. M., Hallmayer, J. F., Monterrey, J. C., Cleveland, S. C., Wolke, O. N., Phillips, J. M., Reiss, A. L., Hardan, A. Y.  
2019
- **Genetic and environmental influences on cortico-striatal circuits in twins with autism.** *Genetic and environmental influences on cortico-striatal circuits in twins with autism.*  
Hegarty, J. P., Lazzeroni, L. C., Raman, M. M., Hallmayer, J. C., Cleveland, S. C., Phillips, J. M., Reiss, A. L., Hardan, A. Y.  
2019
- **Genetic and Environmental Influences on Lobar Brain Structures in Twins With Autism.** *Cerebral cortex (New York, N.Y. : 1991)*  
Hegarty, J. P., Lazzeroni, L. C., Raman, M. M., Pegoraro, L. F., Monterrey, J. C., Cleveland, S. C., Hallmayer, J. F., Wolke, O. N., Phillips, J. M., Reiss, A. L., Hardan, A. Y.  
2019
- **Persistence of abnormalities in white matter in children with type 1 diabetes** *DIABETOLOGIA*  
Fox, L. A., Hershey, T., Mauras, N., Arbelaez, A., Tamborlane, W. V., Buckingham, B., Tsalikian, E., Englert, K., Raman, M., Jo, B., Shen, H., Reiss, A., Mazaika, et al  
2018; 61 (7): 1538–47
- **Altered Brain Network Segregation in Fragile X Syndrome Revealed by Structural Connectomics** *CEREBRAL CORTEX*  
Bruno, J. L., Hosseini, S. M., Saggar, M., Quintin, E., Raman, M. M., Reiss, A. L.

2017; 27 (3): 2249-2259

- **A proton MR spectroscopy study of the thalamus in twins with autism spectrum disorder.** *Progress in neuro-psychopharmacology & biological psychiatry*  
Hegarty, J. P., Gu, M. n., Spielman, D. M., Cleveland, S. C., Hallmayer, J. F., Lazzeroni, L. C., Raman, M. M., Frazier, T. W., Phillips, J. M., Reiss, A. L., Hardan, A. Y.  
2017
- **The moderating effects of sex on insula subdivision structure in youth with posttraumatic stress symptoms.** *Depression and anxiety*  
Klabunde, M., Weems, C. F., Raman, M., Carrion, V. G.  
2017; 34 (1): 51-58
- **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
- **THALAMIC METABOLITE LEVELS AND SENSORY PROCESSING IN TWINS WITH AUTISM SPECTRUM DISORDER**  
Hegarty, J. P., Gu, M., Spielman, D., Cleveland, S., Hallmayer, J. J., Lazzeroni, L. C., Raman, M., Monterrey, J., Frazier, T., Phillips, J. M., Reiss, A. L., Hardan, A.  
ELSEVIER SCIENCE INC.2016: S102
- **LONGITUDINAL THALAMIC NEUROANATOMY IN ADOLESCENTS WITH BIPOLAR I DISORDER**  
Singh, M. K., Wei, M., Soudi, L., Raman, M., Foland-Ross, L., DeGeorge, D., Chang, K. D.  
ELSEVIER SCIENCE INC.2016: S299
- **Sex Differences in Amygdala Shape: Insights from Turner Syndrome**  
Green, T., Fierro, K. C., Raman, M., Foland-Ross, L., Hong, D. S., Reiss, A. L.  
ELSEVIER SCIENCE INC.2016: 109S
- **Surface-based morphometry reveals distinct cortical thickness and surface area profiles in Williams syndrome** *AMERICAN JOURNAL OF MEDICAL GENETICS PART B-NEUROPSYCHIATRIC GENETICS*  
Green, T., Fierro, K. C., Raman, M. M., Saggar, M., Sheau, K. E., Reiss, A. L.  
2016; 171 (3): 402-413
- **Sex differences in amygdala shape: Insights from Turner syndrome.** *Human brain mapping*  
Green, T., Fierro, K. C., Raman, M. M., Foland-Ross, L., Hong, D. S., Reiss, A. L.  
2016; 37 (4): 1593-1601
- **Altered Brain Network Segregation in Fragile X Syndrome Revealed by Structural Connectomics.** *Cerebral cortex*  
Bruno, J. L., Hosseini, S. M., Saggar, M., Quintin, E., Raman, M. M., Reiss, A. L.  
2016
- **Variations in Brain Volume and Growth in Young Children With Type 1 Diabetes.** *Diabetes*  
Mazaika, P. K., Weinzimer, S. A., Mauras, N., Buckingham, B., White, N. H., Tsalikian, E., Hershey, T., Cato, A., Aye, T., Fox, L., Wilson, D. M., Tansey, M. J., Tamborlane, et al  
2016; 65 (2): 476-485
- **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
- **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
- **Right arcuate fasciculus abnormality in chronic fatigue syndrome.** *Radiology*  
Zeineh, M. M., Kang, J., Atlas, S. W., Raman, M. M., Reiss, A. L., Norris, J. L., Valencia, I., Montoya, J. G.  
2015; 274 (2): 517-526

- **Aberrant parietal cortex developmental trajectories in girls with Turner syndrome and related visual-spatial cognitive development: a preliminary study.** *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics*  
Green, T., Chromik, L. C., Mazaika, P. K., Fierro, K., Raman, M. M., Lazzeroni, L. C., Hong, D. S., Reiss, A. L.  
2014; 165B (6): 531-540
- **Aberrant parietal cortex developmental trajectories in girls with turner syndrome and related visual-spatial cognitive development: A preliminary study.** *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics*  
Green, T., Chromik, L. C., Mazaika, P. K., Fierro, K., Raman, M. M., Lazzeroni, L. C., Hong, D. S., Reiss, A. L.  
2014; 165 (6): 531-540
- **Cognitive and Behavioral Correlates of Caudate Subregion Shape Variation in Fragile X Syndrome** *HUMAN BRAIN MAPPING*  
Peng, D. X., Kelley, R. G., Quintin, E., Raman, M., Thompson, P. M., Reiss, A. L.  
2014; 35 (6): 2861-2868
- **Aberrant Parietal Cortex Developmental Trajectories in Girls with Turner Syndrome and Related Visual-Spatial Cognitive Development: A Preliminary Study** *69th Annual Scientific Convention and Meeting of the Society-of-Biological-Psychiatry*  
Green, T., Chromik, L. C., Mazaika, P. K., Fierro, K., Raman, M. M., Lazzeroni, L., Hong, D. S., Reiss, A. L.  
ELSEVIER SCIENCE INC.2014: 346S–346S
- **How Fragile X Syndrome Influences White Matter Structure? Investigating Differences in White Matter Between Individuals with Fragile X Syndrome and IQ-matched Controls**  
Green, T., Barnea-Goraly, N., Raman, M. M., Quintin, E., Reiss, A. L.  
ELSEVIER SCIENCE INC.2014: 99S
- **Alterations in white matter structure in young children with type 1 diabetes.** *Diabetes care*  
Barnea-Goraly, N., Raman, M., Mazaika, P., Marzelli, M., Hershey, T., Weinzimer, S. A., Aye, T., Buckingham, B., Mauras, N., White, N. H., Fox, L. A., Tansey, M., Beck, et al  
2014; 37 (2): 332-340
- **Brain morphology in children with 47, XYY syndrome: a voxel- and surface-based morphometric study.** *Genes, brain, and behavior*  
LePage, J., Hong, D. S., Raman, M., Marzelli, M., Roeltgen, D. P., Lai, S., Ross, J., Reiss, A. L.  
2014; 13 (2): 127-134
- **Brain morphology in children with 47,XYY syndrome: a voxel-and surface-based morphometric study** *GENES, BRAIN AND BEHAVIOR*  
Lepage, J., Hong, D. S., Raman, M., Marzelli, M., et al  
2014: 127–34
- **Alterations in white matter structure in young children with type 1 diabetes mellitus** *DIABETES CARE*  
Barnea-Goraly, N., Raman, M., Mazaika, P., Marzelli, M., et al  
2014: 332–40
- **Cortical Brain Morphology in Young, Estrogen-Naive, and Adolescent, Estrogen-Treated Girls with Turner Syndrome** *CEREBRAL CORTEX*  
Lepage, J., Mazaika, P. K., Hong, D. S., Raman, M., Reiss, A. L.  
2013; 23 (9): 2159-2168
- **Genomic imprinting effects of the x chromosome on brain morphology.** *journal of neuroscience*  
Lepage, J., Hong, D. S., Mazaika, P. K., Raman, M., Sheau, K., Marzelli, M. J., Hallmayer, J., Reiss, A. L.  
2013; 33 (19): 8567-8574
- **Topological properties of large-scale structural brain networks in children with familial risk for reading difficulties** *NEUROIMAGE*  
Hosseini, S. M., Black, J. M., Soriano, T., Bugescu, N., Martinez, R., Raman, M. M., Kesler, S. R., Hoeft, F.  
2013; 71: 260-274
- **Developmental Trajectory of Amygdala Volume in Prepubertal Girls with Turner Syndrome** *68th Annual Scientific Meeting of the Society-of-Biological-Psychiatry*  
Green, T., Hong, D., Fierro, K., Quintin, E., Raman, M., Reiss, A.  
ELSEVIER SCIENCE INC.2013: 84S–84S
- **Structural MRI Investigations in Twins with Autism** *68th Annual Scientific Meeting of the Society-of-Biological-Psychiatry*

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Hardan, A. Y., Hallmayer, J., Lazzeroni, L., Berquist, S., Raman, M. R., Patnaik, S., Phillips, J., Reiss, A. L., Cleveland, S.  
ELSEVIER SCIENCE INC.2013: 88S–88S

- **COGNITIVE TRAJECTORY IN MALES AND FEMALES WITH FRAGILE X SYNDROME** *20th Annual Meeting of the Cognitive-Neuroscience-Society*  
Quintin, E., Hall, S., Jo, B., Bruno, J., Chromik, L., Raman, M., Linghtbody, A., Reiss, A.  
MIT PRESS.2013: 251–251
- **Cortical Brain Morphology in Young, Estrogen-Naive, and Adolescent, Estrogen-Treated Girls with Turner Syndrome.** *Cerebral cortex (New York, N.Y. : 1991)*  
Lepage, J. F., Mazaika, P. K., Hong, D. S., Raman, M., Reiss, A. L.  
2012
- **Evidence of Abnormal Cortical Gray Matter Development in Never-Depressed Daughters of Mothers with Recurrent Depression**  
Foland-Ross, L. C., Gilbert, B. L., Raman, M., Burley, H., Reiss, A. L., Gotlib, I. H.  
ELSEVIER SCIENCE INC.2012: 204S
- **Maternal history of reading difficulty is associated with reduced language-related gray matter in beginning readers** *NEUROIMAGE*  
Black, J. M., Tanaka, H., Stanley, L., Nagamine, M., Zakerani, N., Thurston, A., Kesler, S., Hulme, C., Lyytinen, H., Glover, G. H., Serrone, C., Raman, M. M., Reiss, et al  
2012; 59 (3): 3021-3032
- **BOLD and CBV-weighted functional magnetic resonance imaging of the rat somatosensory system** *MAGNETIC RESONANCE IN MEDICINE*  
Keilholz, S. D., SILVA, A. C., Raman, M., Merkle, H., Koretsky, A. P.  
2006; 55 (2): 316-324
- **Functional MRI of the rodent somatosensory pathway using multislice echo planar imaging** *MAGNETIC RESONANCE IN MEDICINE*  
Keilholz, S. D., SILVA, A. C., Raman, M., Merkle, H., Koretsky, A. P.  
2004; 52 (1): 89-99
- **Ultrasonic measurement of breast tissue motion and the implications for velocity estimation** *ULTRASOUND IN MEDICINE AND BIOLOGY*  
ElFallah, A. I., Plantec, M. B., Ferrara, K. W.  
1997; 23 (7): 1047-1057