



## Tony J. Simon, Ph.D.

### Research/Academic Interests

Dr. Simon is a pediatric cognitive neuroscientist. His research focuses on the interactions between neural, cognitive, affective and stress biology differences in young people with genetic disorders that produce learning difficulties, behavioral dysregulation and psychopathology.

Dr. Simon has spent over a decade and a half investigating how dysfunction in specific neurocognitive processing systems, such as attention, and spatial or temporal processing generates cognitive impairments in thinking about space, time, numbers as well as real world challenges like math, using money and navigation.

He has developed and is testing a digital neurotherapeutic intervention (in the form a video game) to minimize such disability. Dr. Simon's current main project is a National Institute of Mental Health funded longitudinal study on risk and protective factors for psychosis proneness in chromosome 22q11.2 deletion (Velocardiofacial/DiGeorge) syndrome based on the interaction of neurocognitive and affective processing and stress reactivity.

Besides experimental cognitive processing analyses, Dr. Simon uses cutting edge neuroimaging methods, such as resting state functional magnetic resonance imaging (rs-fMRI), Diffusion Tensor Fiber Tracking as well as Event-Related Potential (ERP) components of electrophysiological studies in order to study the structure, function and connective patterns in the developing brain.

**Title** Professor In-Residence

**Specialty** [Psychiatry](#)

**Department** [MIND Institute](#)

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**Education** Ph.D., Sheffield University, Sheffield, 1985  
B.A., Lancashire Polytechnic, Lancashire, 1981

**Professional Memberships** International Neuropsychological Society  
Organization for Human Brain Mapping  
Schizophrenia International Research Society  
Society for Neuroscience  
Society for Research in Child Development  
Society for the Scientific Study of Behavioral Phenotypes  
Society of Biological Psychiatry

**Select Recent Publications** Scott, J.A., Goodrich-Hunsaker, N.J., Kalish, K., Lee, A., Hunsaker, M.R., Schumann, C.M.,



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Carmichael, O.T., Simon, T.J. The hippocampi of children with chromosome 22q11.2 deletion syndrome have localized anterior alterations that predict severity of anxiety. *Journal of Psychiatry and Neuroscience*. 2015;Nov 24;41(1):140299.

Wong LM, Goodrich-Hunsaker NJ, McLennan Y, Tassone F, Rivera, S.M., Simon T.J. A cross-sectional analysis of orienting of visuospatial attention in child and adult carriers of the fragile X permutation. *Journal of Neurodevelopmental Disorders*. 2014;6, 45. DOI: 10.1186/1866-1955-6-45.

Leow, A., Harvey, D., Goodrich-Hunsaker, N., Gadelkarim, J., Kumar, A., Zhan, L., Rivera, S.M., Simon, T.J. Altered Structural Brain Connectome Properties In Young Adult Fragile X Premutation Carriers. *Human Brain Mapping*. 2014;35, 4518-530.

Shapiro H.M., Tassone, F., Choudhary, N., Simon, T.J. The development of cognitive control in children with chromosome 22q11.2 deletion syndrome. *Frontiers in Psychology; Developmental Psychology* DOI: 10.3389/fpsyg. 2014.00566.

Quintero, A.I., Beaton, E.A., Harvey, D.J., Ross, J.L., Simon, T.J. Common and specific impairments in attention functioning in girls with chromosome 22q11.2 deletion, fragile X, or Turner syndromes. *Journal of Neurodevelopmental Disorders*. 2014; 6, 5, DOI:10.1186/1866-1955-6-5.

Angkustsiri, K., Goodlin-Jones, B., Deprey, L., Brahmbatt, K., Harris, S., Simon, T.J. Social impairments in 22q11.2DS: Autism Spectrum Disorder or a different endophenotype? *Journal of Autism and Developmental Disorders*. 2014;44, 439-746.

Angkustsiri, K., Tartaglia, N.R., Leckliter, I., Enriquez, J., Hansen, R.L., Beaton, E.A., Simon, T.J. An examination of the relationship of anxiety and intelligence to adaptive functioning of children



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with chromosome 22q11.2 deletion syndrome. *Journal of Development and Behavioral Pediatrics*. 2012; 33, 713-720.

Cabral, M.H., Beaton, E.A., Stoddard, J.J., Simon, T.J. Impaired multiple object tracking in children with chromosome 22q11.2 deletion syndrome. *Journal of Neurodevelopmental Disorders*. 2012;4:6.

Stoddard, J., Niendam, T., Hendren, R., Carter, C., Simon, T.J. Attenuated positive symptoms of psychosis in adolescents with chromosome 22q11.2 deletion syndrome. *Schizophrenia Research*. 2010;118: 118-121.

Karayiourgou, M., Simon, T.J., Gogos, J.A., 22q11.2 microdeletions: Linking DNA structural variation to brain dysfunction and schizophrenia. *Nature Reviews Neuroscience*. 2010;11: 402-416.

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