

UNIVERSITY OF PENNSYLVANIA - PERELMAN SCHOOL OF MEDICINE
Curriculum Vitae

Date: 03/19/2021

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If you are not a U.S. citizen or holder of a permanent visa, please indicate the type of visa you have:
none (U.S. citizen)

Education:

1991	BA	Texas Christian University (Philosophy and English Literature)
1997	MS	University of New Mexico (Psychology)
2002	PhD	University of New Mexico (Clinical Psychology)

Postgraduate Training and Fellowship Appointments:

2001-2002	Clinical Psychology Internship, University of Chicago, Department of Psychiatry
2002-2005	Post-doctoral Fellowship (Psychopathology and Neuroimaging), University of Illinois at Urbana-Champaign and Beckman Institute

Faculty Appointments:

2007-2013	Research Assistant Professor of Radiology, University of Pennsylvania School of Medicine
2013-2015	Assistant Professor of Radiology at the Children's Hospital of Philadelphia, University of Pennsylvania School of Medicine
2015-present	Associate Professor of Radiology at the Children's Hospital of Philadelphia, University of Pennsylvania School of Medicine

Hospital and/or Administrative Appointments:

2005-2007	Research Scientist, Beckman Institute, Urbana, IL
2007-present	Research Scientist, Children's Hospital of Philadelphia, Philadelphia, PA
2008-present	Participating Researcher/Supervisor, Aachen University and the Research Center Julich, Aachen, Germany

Licensure:

2006-current	Clinical Psychologist (Pennsylvania)
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Awards, Honors and Membership in Honorary Societies:

1987-1991	Dean's Honor List, Texas Christian University
1991	Phi Beta Kappa Liberal Arts Honorary, Texas Christian University
1991	The A. Campbell Garnett Award for a Philosophical Essay (2nd place), Texas Christian University
2001	Haught Memorial Dissertation Award, University of New Mexico
2003	Junior Fellowship Award, International Society for Brain Electromagnetic Topography
2003	Young Investigator Award, International Congress on Schizophrenia Research
2010	RSNA Clinical Trials Methodology Workshop Award, Radiological Society of North America
2012	Best in show, Penn Medicine: A Celebration of Art and Life
2013	Selected to present at Penn Medicine: A Celebration of Art and Life

Major Academic and Clinical Teaching Responsibilities:

2008-Present	Mentor Children's Hospital of Philadelphia, Biomagnetic Imaging Laboratory Postdoctoral Fellows (weekly)
2009-Present	Radiology Fellows Statistics Seminar, Children's Hospital of Philadelphia, Radiology Department (4 - 5 lectures per year)
2010-present	Mentor Children's Hospital of Philadelphia, CHOP Radiology Research Assistants, Radiology Fellows, and Faculty (weekly)
2011	Digital Signal Processing class: 3 week course at RWTH Aachen University (Aachen, Germany). Meet once a day (3 hours per day), using courseware (Mathematica) I wrote and recently published.
2018	Digital Signal Processing class: 2 week course at RWTH Aachen University (Aachen, Germany). Meet once a day (5 hours per day), using courseware (Mathematica) I created.

Organizing Roles in Scientific Meetings:

Mar, 2010	Symposium Chair, Session: MEG in psychiatric and neurologic populations Dubrovnik, Croatia
Aug, 2012	Organizer and chair of symposium, 18th International Conference on Biomagnetism Paris, France
Oct, 2016	Symposium Chair: Session: MEG in psychiatric and neurologic populations. International Conference on Biomagnetism (Biomag 2016) Seoul, South Korean
Aug, 2018	Co-chair of the the 21st International Conference on Biomagnetism (Biomag 2018) Philadelphia

Bibliography:Research Publications, peer reviewed (print or other media):

1. Cañive, J.M., Lewine, J.D., Edgar, J.C., Davis, J.T., Torres, F., Roberts, B., Graeber, D., Orrison, W.W. Jr., Tuason, V.T.: Magnetoencephalographic assessment of spontaneous brain activity in schizophrenia. Psychopharmacology Bulletin 32: 104-110, 1996.
2. Cañive, J.M., Lewine, J.D., Edgar, J.C., Davis, J.T., Torres, F., Graeber, D., Roberts, B., Tuason, V.T.: Magnetoencephalographic examination of the effect of OPC-14597 in schizophrenia patients. Psychopharmacology Bulletin 34: 101-105, 1998.
3. Yeo, R.A., Gagestad, S.W., Edgar J.C., Thoma, R.J. : The evolution-genetic underpinning of schizophrenia: A critical comparison of Crow's theory and the developmental instability model. Schizophrenia Research 39: 197-206, 1998.
4. Lewine, J.D., Thoma, R.J., Provencal, S.L., Edgar, J.C., Miller, G.A., Cañive, J. M. : Abnormal stimulus-response intensity functions in posttraumatic stress disorder: an electrophysiological investigation. American Journal of Psychiatry 159: 1689-1695, Oct 2002.
5. Huang, M., Edgar, J.C., Thoma, R., Hanlon, F., Moses, S., Lee, R.R., Paulson, K., Weisend, M.P., Bustillo, J., Adler, L., Miller, G.A., Cañive, J.M. : Predicting EEG responses using MEG sources in superior temporal gyrus reveals source anomaly in patients with schizophrenia. Clinical Neurophysiology 114(5): 835-850, May 2003.
6. Thoma, R.J., Hanlon, F.M., Moses, S.N., Edgar, J.C., Huang, M., Weisend, M.P., Irwin, J., Sherwood, A., Paulson, K., Bustillo, J., Adler, L.E., Miller, G.A., Cañive, J.M. : Lateralization of auditory sensory gating and neuropsychological dysfunction in schizophrenia. American Journal of Psychiatry 160(9): 1595-1605, Sep 2003.
7. Lewis, S.F., Thoma, R.J., Lanoue, M. Miller, G.A., Heller, W., Edgar, J.C., Huang, M., Weisend, M.P., Irwin, J., Paulson, K., Cañive, J.M.: Visual processing of facial affect. NeuroReport 14(14): 1841-1845, Oct 2003.
8. Edgar J C, Huang M X, Weisend M P, Sherwood A, Miller G A, Adler L E, Cañive J M: Interpreting abnormality: an EEG and MEG study of P50 and the auditory paired-stimulus paradigm. Biological psychology 65(1): 1-20, Dec 2003.
9. Huang, M., Davis, L.E., Aine, C.J., Weisend, M.P., Harrington, D., Christiner R., Stephen, J., Edgar, J.C., Herman, M., Meyer, J., Lee, R.R. : Assessing Primary Motor and somatosensory functions in acute stroke patients with median nerve task. Stroke 115: 820-833, 2004.

10. Thoma, R.J., Hanlon, F.M., Moses, S.N., Ricker, D., Huang, M.X., Edgar, J.C., Irwin, J., Torres, F., Weisend, M.P., Adler, L.E., Miller, G.A., Cañive, J. M. : M50 sensory gating predicts negative symptoms in schizophrenia. Schizophrenia Research 73(2-3): 311-318, Mar 2005.
11. Edgar, J.C., Miller, G.A., Moses, S., Thoma, R.J., Huang, H., Hanlon, F., Weisend, M.P., Bustillo, J., Adler, L.E., Cañive, J.M. : Cross-modal generality of the gating deficit. Psychophysiology 42(3): 318-327, May 2005.
12. Hanlon, F.M., Miller, G.A., Thoma, R.J., Irwin, J., Jones, A., Moses, S.N., Huang, M., Weisend, M.P., Paulson, K.M., Edgar, J.C., Adler, L.E., Canive, J.M. : Distinct M50 and M100 auditory gating deficits in schizophrenia. Psychophysiology 42: 417-427, Jul 2005.
13. Huang, M.X., Lee, R.R., Miller, G.A., Thoma, R.J., Hanlon, F.M., Paulson, K.M., Martin, K., Harrington, D.L., Weisend, M. P. Edgar, J.C., Cañive, J.M. : A parietal-frontal network studied by somatosensory oddball MEG responses, and its cross-modal consistency. NeuroImage 28(1): 99-114, Oct 2005.
14. Edgar, J.C., Yeo, R.A., Gangestad, S.W., Blake, M.B., Davis, J.T., Lewine, J.D., Cañive, J.M.: Reduced Auditory M100 asymmetry in schizophrenia and dyslexia: applying a developmental instability approach to assess atypical brain asymmetry. Neuropsychologia 44(2): 289-299, Jun 2006.
15. Canive, J.M., Miller, G.A., Irwin, J.A., Moses, S.N., Thoma, R.J., Edgar, J.C., Sherwood, A., Torres, F., LaNoue, M., Lewis, S., Hanlon, F.M. Weisend, M.P., Mead, V., Tuason, V.B. : Efficacy of olanzapine and risperidone in schizophrenia: a randomized double-blind crossover design. Psychopharmacology Bulletin 39: 105-116, 2006.
16. Lu B.Y., Edgar, J.C., Jones, A. P., Smith, A.K. Huang, M.X., Miller, G.A., Cañive, J.M. : Improved test-retest reliability of paired-click auditory gating using magnetoencephalography source modeling. Psychophysiology 44: 86-90, Jan 2007.
17. Astolfi, L., Cincott, F., Mattia, D., Marciani, M.G. Baccala, L.A., de Vico Fallani, F., Salinri, S., Ursino, M., Zavaglia, M., Ding,L., Edgar, J.C., Miller, G.A., He, B., Babiloni, F. : Comparison of different cortical connectivity estimators for high-resolution EEG recordings. Human Brain Mapping 28(2): 143-157, Feb 2007.
18. Towle, V.L., Hunter, J.D., Edgar, J.C., Chkhenkeli, S.A., Castelle, M.C., Frim, D.M., Kohrman, M., Hecox, K.E. : Frequency Domain Analysis of Human Subdural Recordings. Journal of Clinical Neurophysiology 24: 205-213, Apr 2007.
19. Astolfi, L., de Vico Fallani, F., Cincotti, F., Mattia, D., Marciani, M.G., Baccala,

- L.A., Salinari, S. Colosimo, A., Ding, L., Edgar, J.C., Heller, W., Miller, G.A., He, B., Babiloni, F. : Imaging functional brain connectivity patterns from high-resolution EEG and fMRI via graph theory. Psychophysiology 44: 880-893, Jul 2007.
20. Lu, B.Y., Martin, K., Edgar, J.C., Smith, A.K., Lewis, S.F., Escamilla, M.A., Miller, G.A., Canive, J.M. : Effect of catechol O-methyltransferase Val158Met polymorphism on the P50 sensory gating endophenotype in schizophrenia. Biological Psychiatry 62: 822-825, Oct 2007.
21. Roberts, T.P.L., Schmidt, G.L., Egeth, M., Blaskey, L., Rey, M.R., Edgar, J.C., Levy, S.E. : Electrophysiological signatures: Magnetoencephalographic studies of the neural correlates of language impairment in autism spectrum disorders. International Journal of Psychophysiology 68: 149-160, Feb 2008.
22. Edgar, J.C., Hanlon, F.M., Huang, M.X., Weisend, M.P., Thoma, R.J., Carpenter, B., Hoechstetter, K., Cañive, J.M., Miller, G.A. : Superior temporal gyrus spectral abnormalities in schizophrenia. Psychophysiology 45: 812-824, Jul 2008.
23. Towle, V.L., Yoon, H., Castelle, M., Edgar, J.C., Biassou, N.M., Frim, D.M., Kohrman, M.H. : ECoG gamma activity during a language task: differentiating expressive and receptive speech areas. Brain 131: 2013-2027, Jul 2008.
24. Ho, R.M., Ombao, H., Edgar, J.C., Cañive, J.M., Miller, G.A. : Time-frequency discrimination analysis of MEG signals. NeuroImage 40: 174-186, Nov 2008.
25. Chen, Y., Dammers, J., Boers, F., Leiberg, S., Edgar, J.C., Roberts, T.P., Mathiak, K.: The temporal dynamics of insula activity to disgust and happy facial expressions: a magnetoencephalography study. NeuroImage 47: 1921-1928, May 2009.
26. Sass, S.M., Heller, W., Stewart, J.L., Siltan, R.L., Edgar, J.C., Fisher, J.E., Miller, G.A.: Time course of attentional bias in anxiety: Emotion and gender specificity. Psychophysiology 47(2): 247-259, Oct 2009.
27. Huang, M., Lee, R.R., Gaa, K.M., Song, T., Harrington, D.L., Loh, C., Theilmann, R.J., Edgar, J.C., Miller, G.A., Canive, J.M., Granholm, E.: Somatosensory System Deficits in Schizophrenia Revealed by MEG during a Median-Nerve Oddball Task. Brain topography 23(1): 82-104, Nov 2009.
28. Roberts, T.P.L., Khan, S.Y., Blaskey, L., Dell, J., Levy, S., Zarnow, D.M., Edgar, J.C. : Developmental correlation of diffusion anisotropy with auditory-evoked response. NeuroReport 20(18): 1586-1591, Dec 2009.
29. Siltan, R.L., Heller, W., Towers, D.N., Engels, A.S., Spielberg, J.M., Edgar, J.C., Sass, S.M., Stewart, J.L., Sutton, B.P., Banich, M.T., Miller, G.A.: The Time Course of Activity in Dorsolateral Prefrontal Cortex and Anterior Cingulate

Cortex during Top-Down Attentional Control. NeuroImage 50(3): 1292-1302, Dec 2009.

30. Stewart, J.L., Sifton, R.L., Sass, S.M., Fisher, J.E., Edgar, J.C., Heller, W., & Miller, G.A.: Attentional bias to negative emotion as a function of approach and withdrawal anger styles. International Journal of Psychophysiology 76(1): 9-18, Jan 2010.
31. Roberts, T.P.L., Khan, S., Rey, M., Monroe, J., Cannon, K., Blaskey, L., Woldoff, S., Qasmieh, S., Gandal, M., Schmidt, G., Zarnow, D.M., Levy, S.E., Edgar, J.C. : MEG detection of delayed auditory evoked responses in autism spectrum disorders: towards an imaging biomarker for autism. Autism Research 3(1): 8-18, Feb 2010.
32. Fisher, J.E., Sass, S.M., Heller, W., Sifton, R.L., Edgar, J.C., Stewart, J.L., Miller, G.A.: Time course of processing emotional stimuli as a function of perceived emotional intelligence, anxiety, and depression. Emotion 10(4): 41-56, Mar 2010.
33. Chen, Y., Edgar, J.C., Holroyd, T., Dammers, J., Thönneßen, H., Roberts, T.P.L., Mathiak, K. : Neuromagnetic oscillations to emotional face and prosody. European Journal of Neuroscience 31(10): 1818-1827, May 2010.
34. Servaes, S., Hernandez, A., Gonzalez, L., Victoria, T., Johnson, M., Jaramillo, D., Edgar, J.C., & Johnson A.: Fetal MRI of clubfoot associated with myelomeningocele. Pediatric Radiology 40(12): 1874-1879, May 2010.
35. Zvyagintsev, M., Klasen, M., Mathiak, K.A., Weber, R., Edgar, J.C., Mathiak, K.: Real-time noise cancellation for speech acquired in interactive functional magnetic resonance imaging studies. Journal of Magnetic Resonance Imaging 32(3): 705-713, Sep 2010.
36. Smith, A., Edgar, J.C., Huang, M., Lu, B., Thoma, R.J., Hanlon, F., McHaffie, G., Jones, A., Rodrigo, P., Miller, G.A., & Canive, J.C.: Cognitive abilities and 50 and 100 ms paired-click processes in schizophrenia. The American Journal of Psychiatry 167(10): 1264-1275, Oct 2010.
37. Gandal, M.J., Edgar, J.C., Ehrlichman, R.S., Mehta, M., Roberts, P.L., Siegel, S.J.: Validating gamma oscillations and delayed auditory responses as translational biomarkers of autism. Biological Psychiatry 68(12): 1100-1106, Dec 2010.
38. Gaetz, W., Edgar, J.C., Wang, D.J., & Roberts, T.P.L.: Relating MEG Measured Motor Cortical Oscillations to resting γ -Aminobutyric acid (GABA) Concentration NeuroImage 55(2): 616-621, Jan 2011.
39. Monroe, J.F., Griffin, M., Pinkham, A., Loughhead, J., Gur, R., Roberts, T.P.L., Edgar, J.C.: The fusiform response to faces: explicit versus implicit processing of

emotion. Human Brain Mapping 34(1): 1-11, Jan 2011.

40. Siltan, R.L., Heller, W., Towers, D.N., Engels, A.S., Edgar, J.C., Spielberg, J.M., Sass, S.M., Stewart, J.L., Sutton, B.P., Banich, M.T., Miller, G.A.: Depression and anxiety distinguish frontocingulate cortical activity during top-down attentional control. Journal of Abnormal Psychology 120(2): 272-285, May 2011.
41. Roberts, T.P.L., Cannon, K.M., Tavabi, K., Blaskey, L., Khan, S.Y., Monroe, J.F., Qasmieh, S., Levy, S.E., Edgar, J.C.: Auditory magnetic mismatch field latency: a biomarker for language impairment in autism. Biological Psychiatry 70(3): 263-9, August 2011.
42. Butler, M., Servaes, S., Srinivasan, A., Edgar, J.C., Del Pozo, G., Darge, K.: US depiction of the appendix: role of abdominal wall thickness and appendiceal location. Emergency Radiology 18(6): 525-531, December 2011.
43. Schock, L., Dyck, M., Demenescu, L.R., Edgar, J.C., Hertrich, I., Sturm, W., & Mathiak, K: Mood modulates auditory laterality of hemodynamic mismatch responses during dichotic listening. PLoS One 7(2): 1-10, Feb 2012.
44. Roberts, T.P.L., Heiken, K., Kahn, S.Y., Qasmieh, S., Blaskey, L., Solot, C., Parker, W.A., Verman, R., Edgar, J.C.: Delayed magnetic mismatch negativity field, but not auditory M100 response, in Specific Language Impairment. Neuroreport 30: 463-8, May 2012.
45. Berman, J.I., McDaniel, J., Liu, S., Cornew, L., Gaetz, W. Roberts, T.P.L., Edgar, J.C.: Variable bandwidth filtering for improved sensitivity of cross frequency coupling metrics. Brain Connectivity 20(12): 155-163, July 2012.
46. Cornew, L., Roberts, T.P.L., Blaskey, L., Edgar, J.C.: Resting-state oscillatory abnormalities in autism spectrum disorders. Journal of Autism and Developmental Disorders 42(9): 1884-94, September 2012.
47. Edgar, J.C., Hunter, M.A., Huang, M.X., Smith, A.K., Chen, Y., Sadek, J., Lu, B.Y., Miller, G.A., & Canive, J.M.: Temporal and frontal cortical thickness associations with M100 auditory activity and attention in healthy controls and individuals with schizophrenia. Schizophrenia Research 140(1-3): 250-7, September 2012.
48. Chen, Y.H., Edgar, J.C., Huang, M., Hunter, M.A., Epstein, E., Howell, B., Lu, B.Y., Bustillo, J., Miller, G.A., Cañive, J.M.: Frontal and superior temporal auditory processing abnormalities in schizophrenia. Neuroimage Clinical 15(2): 695-702, May 2013.
49. Victoria, T., Epelman, M., Coleman, B., Horii, S., Oliver, E., Mahboubi, S., Nahla, K., Kasperskim, S., Edgar, J.C., Jaramillo, D.: Low-dose fetal CT in the prenatal evaluation of skeletal dysplasias and other severe skeletal abnormalities.

American Journal of Roentgenology 200(5): 989-1000, May 2013.

50. Berman, J.I., Lanza, M., Blaskey, L., Edgar, J.C., Roberts, T.P.L.: High angular resolution diffusion imaging (HARDI) probabilistic tractography of the auditory radiation. American Journal of Neuroradiology 34(8): 1573-1578, August 2013.
51. Kitazono Hammell, MT, Bunin, N, Edgar, JC, Jaramillo, D.: Paraphyseal changes on bone-age studies predict risk of delayed radiation-associated skeletal complications following total body irradiation. Pediatric Radiology 43(9): 1152-1158, September 2013.
52. Edgar, J.C., Chen, Y.H., Lanza, M., Howell, B., Chow, V.Y., Heiken, K., Liu, S., Wootton, C., Hunter, M.A., Huang, M., Miller, G.A., Cañive, J.M.: Cortical thickness as a contributor to abnormal oscillations in schizophrenia? Neuroimage Clinical 4: 122-129, November 2013.
53. Roberts, T.P.L., Lanza, M.R., Dell, J., Qasmieh, S., Hines, K., Blaskey, L., Zarnow, D.M., Levy, S.E., Edgar, J.C., Berman, J.I. : Maturation differences in thalamocortical white matter microstructure and auditory evoked response latencies in autism spectrum disorders. Brain Research(1537), 79-85, November 2013.
54. Huang, M., Huang, C., Robb, A., Angeles, A., Nichols, S.L., Baker, D.G., Song, T., Harrington, D.L., Theilmann, R.J., Srinivasan, R., Heister, D., Diwakar, M., Canive, J.M., Edgar, J.C., Chen, Y., Ji, Z., Shen, M., El-Gabalawy, F., Levy, M., McLay, R., Webb-Murphy, J., Liu, T.T., Drake, A., Lee, R.R.: MEG source imaging method using Fast L1 Minimum-norm and its applications to signals with brain noise and human resting-state source amplitude images. NeuroImage 84: 585-604, January 2014.
55. Roberts, T.P.L., Heiken, K., Zarnow, D., Dell, J., Nagae, L., Blaskey, C., Solot, C., Levy, S.E., Berman, J.I., Edgar, J.C. : Left hemisphere diffusivity of the arcuate fasciculus: influences of autism spectrum disorder and language impairment. American Journal of Neuroradiology 35(3): 587-592, March 2014.
56. Roberts, T.P.L., Paulson, D., Hirschkoff, E., Pratt, K., Mascarenas, A., Miller, P., Han, M., Caffrey, J., Kincade, C., Power, B., Murray, R., Chow, V., Fisk, C., Ku, M., Chudnovskaya, D., Dell, J., Golembski, R., Lam, P., Blaskey, L., Kuschner, E., Bloy, L., Gaetz, W., Edgar, J.C.: Artemis 123: Development of a whole-head infant and young child MEG system. Frontiers in Human Neuroscience 8(99): 99, March 2014.
57. Sass, S.M., Heller, W., Fisher, J.E., Levin, R., Stewart, J.L., Crocker, L.D., Edgar, J.C., Mimnaugh, K.J., Miller, G.A.: Electrophysiological evidence of the time course of attentional bias in nonpatients reporting symptoms of depression with and without co-occurring anxiety Frontiers in Psychology: Personality Science

and Individual Differences. 9(5): 301, Apr 2014.

58. Edgar, J.C., Lanza, M.R., Daina, A.B., Monroe, J.F., Khan, S.Y., Blaskey, L., Cannon, K.M., Jenkins, J., Qasmieh, S., Levy, S.E., Roberts, T.P.L.: Missing and delayed auditory responses in young and older children with autism spectrum disorders. Frontiers in Human Neuroscience 8(417): 1-12, June 2014.
59. Fisher, J.E., Miller, G.A., Sass, S.M., Siltan, R.L., Edgar, J.C., Stewart, J.L., Zhou, J., & Heller, W. : Neural correlates of suspiciousness and interactions with anxiety during emotional and neutral word processing. Frontiers in Psychology: Personality and Social Psychology 5, June 2014.
60. Huang, M.X., Nichols, S., Baker, D.G., Robb, A., Angeles, A., Yurgil, K.A., Drake, A., Levy, M., Song, T., McLay, R., Theilmann, R.J., Diwakar, M., Risbrough, V.B., Ji, Z., Huang, C.W., Chang, D.G., Harrington, D.L., Muzzatti, L., Canive, J.M., Edgar, J.C., Chen, Y., Lee, R.R.: Single-subject-based whole-brain MEG slow-wave imaging approach for detecting abnormality in patients with mild traumatic brain injury. NeuroImage: Clinical 16(5): 109-119, June 2014.
61. Ghanbari, Y., Bloy, L., Shankar, V., Edgar, J.C., Roberts, T.P., Schultz, R.T., Verma, R.: Functionally driven brain networks using multi-layer graph clustering. Med Image Comput Comput Assist Interv 17(3): 113-120, August 2014.
62. Nabavizadeh, S.A., Edgar, J.C., Vossough, A.: Utility of susceptibility-weighted imaging and arterial spin perfusion imaging in pediatric brain arteriovenous shunting. Neuroradiology 56(10): 877-884, October 2014.
63. Chen, Y., Stone-Howell, B., Edgar, J.C., Huang, M.X., Wootton, C., Hunter, M., Lu, M., Sadek, J., Miller, G.A., Canive, J.M.: Frontal slow-wave activity as a predictor of negative symptoms, cognition, and functional capacity in schizophrenia. British Journal of Psychiatry 208(2): 160-167, February 2015.
64. Edgar, J.C., Khan, S.Y., Blaskey, L., Chow, V.Y., Rey, M., Gaetz, W., Cannon, K.M., Monroe, J.F., Cornew, L., Qasmieh, S., Liu, S., Welsh, J.P., Levy, S.E., Roberts, T.P.: Neuromagnetic Oscillations Predict Evoked-Response Latency Delays and Core Language Deficits in Autism Spectrum Disorders. Journal of Autism and Developmental Disorders 45(2): 395-405, Feb 2015.
65. Ghanbari, Y., Bloy, L., Edgar, J.C., Blaskey, L., Verman, R., Roberts, T.P.L.: Joint Analysis of Band-Specific Functional Connectivity and Signal Complexity in Autism. Journal of Autism and Developmental Disorders 45(2): 444-60, Feb 2015.
66. Edgar, J.C., Heiken, K., Chen, Y., Herrington, J., Chow, V., Liu, S., Bloy, L., Huang, M.X., Pandey, J., Cannon, K., Qasmieh, S., Levy, S.E., Schultz, R., Roberts, T.P.L. : Resting-state alpha in autism spectrum disorder and alpha associations

- with thalamic volume. Journal of Autism and Developmental Disorders 45(3): 795-804, March 2015.
67. Berman, J.I., Liu, S., Bloy, L., Blaskey, L., Roberts, T.P.L., Edgar, J.C.: Alpha-to-Gamma Phase-amplitude Coupling Methods and Application to Autism Spectrum Disorder. Brain Connectivity 5(2): 80-90, Apr 2015.
 68. Gaebler, A.J., Mathiak, K., Koten, J.W., Konig, A.A., Koush, Y., Weyer, D., Depner, C., Matentzoglou, W., Edgar, J.C., Willmes, K., Zvyaginstsev, M. : Auditory mismatch impairments are characterized by core neural dysfunctions in schizophrenia. Brain 138(5): 1410-1423, May 2015.
 69. Jenkins, J., Chow, V., Blaskey, L., Kuschner, E., Qasmieh, S., Gaetz, L., Edgar, J.C., Mukherje, P., Buckner, R., Nagarajan, S.S., Chung, W.K., Spiro J.E., Sherr, E.H., Berman, J.I., Roberts, T.P.: Auditory Evoked M100 Response Latency is Delayed in Children with 16p11.2 Deletion but not 16p11.2 Duplication. Cerebral Cortex 26(5): 1957-1964, May 2015.
 70. Chauvin, N.A., Ho-Fung, V., Jaramillo, D., Edgar, J.C., Weiss, P.F.: Ultrasound of the joints and entheses in healthy children. Pediatric Radiology 45(9): 1344-1354, August 2015.
 71. Back, S.J., Edgar, J.C., Canning, D.A., Darge, K.: Contrast-enhanced voiding urosonography: in vitro evaluation of a second-generation ultrasound contrast agent for in vivo optimization. Pediatric Radiology 45(10): 1496-1505, September 2015.
 72. Edgar, J.C., Murray, R., Kuschner, E.S., Pratt, K., Paulson, D.N., Dell, J., Golembski, R., Lam, P., Bloy, L., Gaetz, W., Roberts, T.P.: The maturation of auditory responses in infants and young children: a cross-sectional study from 6 to 59 months. Frontiers in Neuroanatomy 9: 1-8, October 2015.
 73. Gaballah, M., Krishnamurthy, G., Berman, J.I., Edgar, J.C., Adeb, M., Keller, M.S., McIntosh, A., Nazario, M., Cahill, A.M.: Lower Extremity Vascular Access in Neonates and Infants: A Single Institutional Experience. Journal of Vascular and Interventional Radiology 26(11): 1660-1668, November 2015.
 74. Edgar, J.C., Fisk, C.L., Berman, J.I., Chudnovskaya, D., Liu, S., Pandey, J., Herrington, J.D., Port, R.G., Schultz, R.T., Roberts, T.P.L.: Auditory encoding abnormalities in children with autism spectrum disorders suggest delayed development of auditory cortex. Molecular Autism 6(69), December 2015.
 75. Edgar, J.C., Fisk, C.L., Liu, S., Pandey, J., Herrington, J.D., Schultz, R.T., Roberts, T.P.L.: Translating adult electrophysiology findings to younger patient populations: difficulty measuring 40 Hz auditory steady-state responses in typically developing children and children with autism spectrum disorder.

Developmental Neuroscience 38(1): 1-14, January 2016.

76. Khrichenko, D., Saul, D., Adeb, M., Camilo, J., Betts, K.N., Barron, S.M., Edgar, J.C., Lambert, S.M., Casale, P., Darge, K.: Intra- and inter-observer variability of functional MR urography(fMRU) assessment in children. Pediatric Radiology 46(5): 666-73, January 2016.
77. Victoria, T., Johnson, A.M., Edgar, J.C., Zarnow, D.M., Vossough, A., Jaramillo, D.: Comparison Between 1.5-T and 3-T MRI for Fetal Imaging: Is There an Advantage to Imaging With a Higher Field Strength? American Journal of Roentgenology 206(1): 195-201, January 2016.
78. Berman, J.I., Edgar, J.C., Blaskey, L., Kushner, E.S., Levy, S.E., Ku, M., Dell, J., Roberts, T.P.: Multimodal Diffusion-MRI and MEG Assessment of Auditory and Language System Development in Autism Spectrum Disorder. Frontiers Neuroanatomy 10(30): 1-9, March 2016.
79. Port, R.G., Edgar, J.C., Ku, M., Bloy, L., Murray, R., Blaskey, L., Levy, S.E., Roberts, T.P.: Maturation of auditory neural processes in autism spectrum disorder - A longitudinal MEG study. Neuroimage Clinical Page: 566-577, April 2016.
80. Victoria, T., Shakir, N.U., Andronikou, S., Edgar, J.C., Germaine, P., Epelman, M., Johnson, A.M., Jaramillo, D.: Normal Fetal Long Bone Length from Computed Tomography: Potential Value in the Prenatal Evaluation of Skeletal Dysplasias. Fetal Diagnosis and Therapy 40(4): 291-297, April 2016.
81. Schulte-Holthausen, B., Habel, U., Kellerman, T., Schelenz, P.D., Schneider, F., Edgar, J.C., Turetsky, B., Regenbogen, C.: Task-irrelevant fear enhances amygdala-FFG inhibition and decreases subsequent face processing. Social Cognitive and Affective Neurosciences 11(9): 1440-1448, Sept 2016.
82. Ghanbari, Y., Bloy, L., Tunc, B., Shankar, V., Roberts, T.P., Edgar, J.C., Schultz, R.T., Verma, R.: On characterizing population commonalities and subject variations in brain networks. Medical Image Analysis 38: 215-229, May 2017.
83. Bedoya, M.A., White, A.M., Edgar, J.C., Pradhan, M., Raab, E., Meyer, J.: Effect of Intravenous Administration of Contrast Media on Serum Creatinine Levels in Neonates. Radiology 284(2): 530-540, August 2017.
84. Edgar, J.C., Fisk, C.L., Chen, Y., Stone-Howell, B., Hunter, M., Huang, M.X., Bustillo, J.R., Canive, J.C., Miller, G.A.: By our bootstraps: comparing methods for measuring auditory 40 Hz steady-state neural activity Psychophysiology 54(8): 1110-1127, August 2017.
85. Kaplan, S.L., Magill, D., Felice, M.A., Edgar, J.C., Anupindi, S.A., Zhu, X.:

Intussusception reduction: Effect of air vs. liquid enema on radiation dose.
Pediatric Radiology 47(11): 1471-1476, October 2017.

86. Victoria, T., Danzer, E., Oliver, E.R., Edgar, J.C., Iyoob, S., Partridge, E.A., Johnson, A.M., Peranteau, W.H., Coleman, B.G., Flake, A.W., Johnson, M.P., Hedrick, H.H., Adzick, N.S.: Right congenital diaphragmatic hernias: Is there a correlation between prenatal lung volume and postnatal survival, as in isolated left congenital diaphragmatic hernias? Fetal Diagnosis and Therapy 43(1): 12-18, May 2018.
87. Chen, Y., Stone-Howell, B., Edgar, J.C., Huang, M.X., Kochunovf, P., Hunter, M., Wootton, C., Lu, B.Y., Bustillo, J., Sedek, J.R., Miller, G.A., Canive, J.M.: Associations and heritability of auditory encoding, gray matter, and attention in schizophrenia. Schizophrenia Bulletin 45(4): 859-870, June 2018.
88. Edgar, J.C., Fisk, C.L., Chen, Y-H, Stone-Howell, B., Liu, S., Hunter, M.A., Huang, M., Bustillo, J., Canive, J.M., Miller, G.A.: Identifying auditory cortex encoding abnormalities in schizophrenia: The utility of low-frequency versus 40 Hz steady-state measures. Psychophysiology 55(8): 1-15, August 2018.
89. Back, S.J., Edgar, J.C., Weiss, D.A., Oliver, E.R., Bellah, R.D., Darge, K.: Rater Reliability of Postnatal Urinary Tract Dilation (UTD) Consensus Classification. Pediatric Radiology 48(11): 1606-1611, October 2018.
90. Matsuzaki, J., Ku, M., Berman, J.I., Blaskey, L., Bloy, L., Chen, Y.H., Dell, J., Edgar, J.C., Kushner, E.S., Liu, S., Saby, J., Brodtkin, E.S., Roberts, T.P.L.: Abnormal auditory mismatch fields in adults with autism spectrum disorder. Neuroscience Letters 698: 140-145, Dec 2018.
91. Bloy, L., Ku, M., Edgar, J.C., Miller, J.S., Blaskey, L., Ross, J., Roberts, T.P.L.: Auditory evoked response delays in children with 47,XXY syndrome. Neuroreport 30(7): 504-509, May 2019.
92. Matsuzaki, J., Kushner, E.S., Blaskey, L., Bloy, L., Kim, M., Ku, M., Edgar, J.C., Embick, D., Roberts, T.P.L.: Abnormal auditory mismatch fields are associated with communication impairment in both verbal and minimally verbal/nonverbal children who have autism spectrum disorder. Autism Research 12(8): 1125-1235, May 2019.
93. Barrera, C.A., Bedoya, M.A., Delgado, J., Berman, J.I., Chauvin, N.A., Edgar, J.C., Jaramillo, D.: Correlation between diffusion tensor imaging parameters of the distal femoral physis and adjacent metaphysis, and subsequent adolescent growth. Pediatric Radiology 49(9): 1192-1200, June 2019.
94. Port, R.G., Dipiero, M.A., Ku, M., Liu, S., Blaskey, L., Kushner, E.S., Edgar, J.C., Roberts, T.P.L., Berman, J.I.: Children with Autism Spectrum Disorder Demonstrate Regionally Specific Altered Resting-State Phase-Amplitude

- Coupling. Brain Connectivity 9(5): 425-436, June 2019.
95. Edgar, J.C., Dipiero, M., McBride, E., Green, H.L., Berman, J., Ku, M., Liu, S., Blaskey, L., Kushner, E., Airey, M., Ross, J.L., Bloy, L., Kim, M., Koppers, S., Gaetz, W., Schultz, R.T., Roberts, T.P.L.: Abnormal maturation of the resting-state peak alpha frequency in children with autism spectrum disorder. Human Brain Mapping 40(11): 3288-3298, August 2019.
96. Roberts, T.P.L., Matsuzaki, J., Blaskey, L., Bloy, L., Edgar, J.C., Kim, M., Ku, M., Kushner, E.S., Embick, D.: Delayed M50/M100 evoked response component latency in minimally verbal/nonverbal children who have autism spectrum disorder. Molecular Autism 10(34), August 2019.
97. Edgar, J.C.: Identifying electrophysiological markers of autism spectrum disorder and schizophrenia against a backdrop of normal brain development. Psychiatry and Clinical Neuroscience 74(1): 1-11, October 2019.
98. Matsuzaki, J., Bloy, L., Blaskey, L., Miller, J., Kushner, E.S., Ku, M., Dipiero, M., Airey, M., Edgar, J.C., Embick, D., Ross, J., Roberts, T.P.L.: Abnormal Auditory Mismatch Fields in Children and Adolescents with 47,XXY Syndrome. Developmental Neuroscience 41(1): 123-131, 2019.
99. Roberts, T.P.L., Bloy, L., Blaskey, L., Kushner, E., Gaetz, L., Anwar, A., Ku, M., Dipiero, M., Bennett, A., Edgar J.C.: A MEG Study of Acute Arbaclofen (STX-209) Administration. Frontiers Integrative Neuroscience 13(69), December 2019.
100. Barrera, C.A., Francavilla, M.L., Serai, S.D., Edgar, J.C., Jaimes, C., Gee, M.S., Roberts, T.P.L., Otero, H.J., Adzick, N.S., Victoria, T.: Specific Absorption Rate and Specific Energy Dose: Comparison of 1.5-T versus 3.0-T Fetal MRI. Radiology Page: in press, April 2020.
101. Roberts, T.P.L., Bloy, L., Ku, M., Blaskey, L., Jackel, C.R., Edgar, J.C., Berman, J.I.: A Multimodal Study of the Contributions of Conduction Velocity to the Auditory Evoked Neuromagnetic Response: Anomalies in Autism Spectrum Disorder. Autism Research 13(10): 1730-1745, October 2020.
102. Edgar, J.C., Blaskey, L., Green, H.L., Konka, K., Shen, G., Dipiero, M.A., Berman, J.I., Bloy, L., Liu, S., McBride, E., Ku, M., Kushner, E., Airey, M., Kim, M., Franzen, R.E., Miller, G.A., Roberts, T.P.L.: Maturation of Auditory Cortex Neural Activity in Children and Implications for Auditory Clinical Markers in Diagnosis. Frontiers Page: Epub ahead of print, November 2020.
103. Kushner, E.S., Kim, M., Bloy, L., Dipiero, J., Edgar, J.C., Roberts, T.P.L.: MEG-PLAN: A Clinical and technical protocol for obtaining magnetoencephalography data in minimally-verbal or nonverbal children who

have autism spectrum disorder. Journal of Neurodevelopmental Disorders Page: in press, November 2020.

104. White, S.A., Shellikeri, S., Munoz, M.L., Edgar, J.C., Nguyen, J.C., Sze, R.W.: Can Radiology Technologists be Trained to Measure Leg Length Discrepancies as Accurately as Pediatric Radiologists? Academic Radiology 27: Epub ahead of print, November 2020.
105. Chen, Y., Slinger, M., Edgar, J.C., Bloy, L., Kushner, E.S., Kim, M., Green, H.L., Chiang, T., Yount, T., Liu, S., Lebus, J., Lam, S., Stephen, J.M., Huang, H., Roberts, T.P.L.: Maturation of hemispheric specialization for face encoding during infancy and toddlerhood. Developmental Cognitive Neuroscience Page: Epub ahead of print, Jan 2021.
106. Green, H.L., Dipiero, M., Koppers, S., Berman, J.I., Bloy, L., Liu, S., McBride, E., Ku, M., Blaskey, L., Kushner, E., Airey, M., Kim, M., Konka, K., Roberts, T.P.L., Edgar, J.C.: Peak Alpha Frequency and Thalamic Structure in Children with Typical Development and Autism Spectrum Disorder. Journal of Autism and Developmental Disorders Page: Epub ahead of print, February 2021.

Research Publications, peer-reviewed reviews:

1. Schwartz, E.S., Edgar, J.C., Gaetz, W.C., Roberts, T.P.L.: Magnetoencephalography. Pediatric Radiology 22(2): 106-120, Nov 2009.
2. Roberts, T.P.L., Edgar, J.C. : Electrophysiological endophenotypes in autism spectrum disorders MENSA Research Journal 40(3): 19-26, Fall 2009.
3. Gandal, M.J., Edgar, J.C., Klook, K., Siegel, S.J.: Gamma synchrony: towards a translational biomarker for the treatment resistant symptoms of schizophrenia. Neuropsychopharmacology 62(3): 1508-1518, March 2011.
4. Gaetz, W., Gordon, R.S., Papadelis, C., Fujiwara, H., Rose, D.F., Edgar, J.C., Schwartz, E.S., Roberts, T.P.L.: Magnetoencephalography for Clinical Pediatrics: Recent Advances in Hardware, Methods, and Clinical Applications. Journal of Pediatric Epilepsy 4(4): 139-155, June 2015.
5. Kaplan, S.L., Edgar, J.C., Ford, E.G., Adgent, M.A., Schall, J.I., Kelly, A., Umbach, D.M., Rogan, W.J., Stallings V,A., Darge K.: Size of testes, ovaries, uterus and breast buds by ultrasound in healthy full-term neonates ages 0-3 days. Pediatric Radiology 46(13): 1837-1847, August 2016.
6. Chen, Y.H., Saby, J., Kushner, E., Gaetz, W., Edgar, J.C., Roberts, T.P.L.: Magnetoencephalography and the infant brain. Neuroimage 189: 445-458, Jan 2019.
7. Edgar, J.C., Guha, A., Miller, G.A.: Magnetoencephalography for Schizophrenia.

Neuroimaging Clinics of North America. Roland Lee and Mingxiong Huang (eds.). 30(2): 205-216, May 2020.

8. Green, H.L., Edgar, J.D., Matsuzaki, J., Roberts, T.P.L.: Magnetoencephalography Research in Pediatric Autism Spectrum Disorder. Neuroimaging Clinics of North America. Roland Lee and Mingxiong Huang (eds.). 30(2): 193-203, May 2020.

Editorials, Reviews, Chapters, including participation in committee reports (print or other media):

1. Edgar, J.C., Stewart, J., Miller, G.A. : Digital filters in ERP research. Event-Related Potentials: A Methods Handbook. T.C. Handy (eds.). MIT Press, Page: 85-113, 2006.
2. Edgar, J.C., Keller, J., Heller, W., Miller, G.A. : Psychophysiology in research on Psychopathology Handbook of Psychophysiology, 3rd Edition. L.G. Tassinary, J.T. Cacioppo, G.G. Berntson (eds.). New York: Cambridge University Press Page: 665-687, 2007.
3. Roberts, T.P.L., Edgar, J.C., Schwartz, E.S. : Magnetoencephalography: Technique, Clinical Applications and Future Opportunities. Functional Neuroimaging: A Clinical Approach. A. Holodny (eds.). Informa Healthcare, Page: 321-340, 2009.

Books:

1. J. Christopher Edgar and Gregory A. Miller: Digital Signal Processing: Interactive Courseware. O'Reilly Media, Inc. 2012.

Patents:

J. Christopher Edgar: Electrophysiology markers of brain injury and brain recovery in mild traumatic brain injury. USA Patent Number PCT/US2020/022581, 2019.

Timothy P.L. Roberts and James C. Edgar: Magnetoencephalography biomarkers of GABA-B agonist drug activity in autism spectrum disorder. United States Patent Number 3460-P05722US01, 2019.