

UNIVERSITY OF PENNSYLVANIA - PERELMAN SCHOOL OF MEDICINE
Curriculum Vitae

Date: 04/30/2020

James Christopher Edgar, PhD

Address: The Children's Hospital of Philadelphia
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34th and Civic Center Blvd
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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

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.

Lectures by Invitation (Last 5 years):

Dec, 2015	"Brain Changes: Deciphering brain pathology within a developmental context", National Yang-Ming University - Institute of Neuroscience, Taipei, Taiwan
Oct, 2016	"Infant MEG: Current research and future directions", 20th International Conference on Biomagnetism, Seoul, Korea
Oct, 2016	"Brains Change: Deciphering brain pathology within a developmental context", 20th International Conference on Biomagnetism, Seoul, Korea
Dec, 2017	"Neural abnormalities in psychiatric and neurologic disorders: identifying pathology against a backdrop of normal brain development", Kyushu University, Kyushu, Japan
Apr, 2018	Identifying brain dysfunction in schizophrenia: EEG and MEG findings. 50 years of MEG. Poros, Greece
Jul, 2018	"Neural abnormalities in psychiatric and neurologic disorders: identifying pathology against a backdrop of normal brain development", Amsterdam, University Medical Center, Amsterdam, Netherlands
Aug, 2018	"Neural abnormalities in psychiatric and neurologic disorders: identifying pathology against a backdrop of normal brain development", RWTH Aachen University, Aachen, Germany

Apr, 2019 "Neural abnormalities in psychiatric and neurologic disorders: identifying pathology against a backdrop of normal brain development",
Lifespan Brain Institute, University of Pennsylvania, Philadelphia, PA

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., Cincotti, F., Mattia, D., Marciani, M.G. Baccala, L.A., de Vico Fallani, F., Salinari, 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., Hoehstetter, 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.

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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., Siltan, 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., Siltan, 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.
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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.

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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.
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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.
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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.
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- 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.
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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.
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