

## John P. Hegarty II

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[profiles.stanford.edu/john-hegarty](https://profiles.stanford.edu/john-hegarty)

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### Education

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- Postdoc**      **Neuroscience of Developmental Disorders, Stanford University**  
**September 2015-December 2020**  
Advisor: Dr. Antonio Hardan, M.D.  
Fellowship: *Bass Society of Pediatric Scholars*
- Ph.D.**            **Neuroscience, University of Missouri**  
**August 2010-August 2015**  
Advisor: Dr. David Beversdorf, M.D.  
Dissertation: *Network coherence in autism spectrum disorder: a multimodal neuroimaging study of functional connectivity and spectroscopy MRI*
- M.A.**            **Psychology, Emphasis Cognition and Behavior, San Diego State University**  
**August 2007-August 2010**  
Advisor: Dr. Claire Murphy, Ph.D.,  
Thesis: *Assessment of associations of known Alzheimer's disease risk factors and the medial temporal and orbitofrontal lobes: a volumetric MRI study*
- B.S.**            **Psychology, Minor Biological Sciences, Clemson University Honors College**  
**August 2002-May 2006**  
Advisor: Dr. Claudio Cantalupo, Ph.D.  
Thesis: *Asymmetry of the insular cortex in Pan troglodytes: a volumetric MRI study*

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### Research Experience

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- 2023-Present      **Assistant Professor**, *Department Psychiatry & Behavioral Sciences, Stanford University*
- 2022-Present      **Associate Editor**, *Journal of Autism and Developmental Disorders, Springer Nature*
- 2022-2023        **Associate Director of Strategic Program Development**, *Center for Precision Mental Health and Wellness, Stanford University*
- 2020–2023        **Instructor**, *Department of Psychiatry and Behavioral Sciences, Stanford University*
- 2015-2020        **Postdoctoral Fellow**, *Autism & Developmental Disorders Research Program, Stanford University*
- 2010-2015        **Graduate Research Assistant**, *Cognitive Neuroscience Laboratory, University of Missouri*
- 2010-2012        **Graduate Assistant**, *Brain Imaging Center, University of Missouri*

## Curriculum vitae

### John P. Hegarty II, PhD

2009-2010 **Lab Manager**, *Attention and Perception Laboratory, University of Missouri*

2007-2009 **Graduate Research Assistant**, *Lifespan Human Senses Laboratory, San Diego State University*

2005-2006 **Undergraduate Research Assistant**, *Comparative Neuropsychology Laboratory, Clemson University*

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## Teaching Experience

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### Undergraduate, Graduate and Postdoctoral Courses

- Stanford University
  - Seminar Panelist: Biosciences Grant Writing Academy 2020, 2021
  - Seminar Instructor and Panelist: Autism Working Group 2017, 2019, 2021
- California State University, East Bay
  - Course Instructor: Psychology 4320 - *Physiological Psychology* 2016-2017
- University of Missouri, Columbia
  - Course Instructor: Neuroscience 8127- *Neurobiology of Autism* 2013
  - Laboratory Instructor: Psychology 3010- *Research Methods* 2012
  - Teaching Assistant: Psychology 3010- *Research Methods* 2012
- San Diego State University
  - Laboratory Instructor: Psychology 271- *Data Analysis in Psychology* 2008-2009
  - Teaching Assistant: Psychology 270- *Statistical Methods* 2008-2009
  - Teaching Assistant: Psychology 101- *Introduction to Psychology* 2007-2008

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## Professional Development

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- National Institutes of Health
  - NINDS Clinical Trials Methodology Course 2021-2022
- Stanford University
  - Clinical and Translational Research Career Accelerator Program 2021
  - Diversity and Inclusivity Forum 2020
  - Stanford Postdoc Leadership Retreat 2019-2021
  - Stanford Postdoc Leadership Training Course 2019
  - Someone Like Me Mentoring Program 2018
  - Teaching Certificate Program for Postdocs 2017-2019
  - Grant Writing Academy Bootcamp 2016-2017
  - Teaching STEM for Undergraduates Workshop 2016
  - Preparing Future Faculty Workshop 2015, 2020
- International Symposium on GABA and Advanced MRS 2017, 2019, 2020
- University of Missouri, Columbia
  - Technical Writing Workshop 2014
  - College Science Teaching Course 2013
  - Preparing Future Faculty Course 2012-2013

## Curriculum vitae

### John P. Hegarty II, PhD

- FMRIB University of Oxford and Martinos Center for Biomedical Imaging
  - FSL and Freesurfer Workshop, Montreal, Quebec, Canada 2011
- University of California, San Diego School of Medicine
  - Functional MRI -Foundations and -Design and Analysis Courses 2007-2008

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## Publications ([orcid.org/0000-0002-3533-5527](https://orcid.org/0000-0002-3533-5527); [ncbi.nlm.nih.gov/myncbi/john.hegarty.2/bibliography/public](https://ncbi.nlm.nih.gov/myncbi/john.hegarty.2/bibliography/public))

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### *Highlighted*

- Hegarty, J.P.,II**, 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., and Hardan, A.Y. (2019) Genetic and environmental influences on structural brain measures in twins with autism spectrum disorder. *Molecular Psychiatry*, 25: pp. 2556-2566. DOI: <https://doi.org/10.1038/s41380-018-0330-z>.
- Hegarty, J.P.,II**, Weber, D.J., Cirstea, C.M. and Beversdorf, D.Q. (2018) Cerebro-cerebellar functional connectivity is associated with cerebellar excitation-inhibition balance in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 48(10): pp. 3460-3473, DOI: <https://doi.org/10.1007/s10803-018-3613-y>.
- Hegarty, J.P., II**, Zamzow, R. M., Ferguson, B.J., Christ, S.E., Porges, E.C., Johnson, J.D., and Beversdorf, D. Q. (2020) Beta-adrenergic antagonism alters functional connectivity during associative processing in a preliminary study of individuals with and without autism. *Autism*, 24(3): pp. 795-801. DOI: <https://doi.org/10.1177/1362361319868633>.

### *Chronological*

- Hegarty, J.P.,II** and Hardan, A.Y. (2022) Treatment of Autism Spectrum Disorder. In A.F. Schatzberg, and C.B Nemeroff (Eds.), *Textbook of Psychopharmacology*, 6<sup>th</sup> Edition, Arlington, VA: American Psychiatric Association Publishing, *in press*.
- Nair, N., **Hegarty, J.P.,II**, Gu, M., Cirstea, C.M., Appling, C., and Beversdorf, D.Q. (2022) Relationship between MR spectroscopy-detected glutamatergic neurometabolites and changes in social behaviors in a pilot open-label trial of memantine for adults with autism spectrum disorder. *Frontiers Psychiatry*, *accepted 23 June 2022*.
- Miri, P., Arora, M., Malhotra, A., Flory, R., Hu, S., Lowver, A., Goyal, I., Nguyen, J., **Hegarty, J.P.,II**, Kohn, M., Schneider, D., Culbertson, H., Yamins, D., Fung, L., Hardan, A., Gross, J., and Marzullo, K. (2022) FAR: End-to-end vibrotactile distributed system designed to facilitate affect regulation in children diagnosed with autism spectrum disorder through slow breathing. *CHI '22: Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, 168: pp. 1-20. DOI: <https://doi.org/10.1145/3491102.3517619>.
- Hegarty, J.P.,II**, Fung, L.K., and Hardan, A.Y. (2022) N-acetylcysteine (NAC). In E. Hollander, R. Hagerman, and C. Ferretti (Eds.), *Textbook of Autism Spectrum Disorders*, 2nd Edition, pp. 505-518. Washington, DC: American Psychiatric Publishing, Inc.
- Hui, S.C.N., Mikkelsen, M., Zollner, H.J., Ahluwalia, V., Alcauter, S.,...**Hegarty, J.P.,II**...Edden, R.A.E. (2021) Frequency drift in MR spectroscopy at 3T. *Neuroimage*, 241(1): pp. 118430. DOI: <https://doi.org/10.1016/j.neuroimage.2021.118430>
- Hegarty, J.P.,II**, Lazzeroni, L. C., Raman, M.M., Hallmayer, J. C., Cleveland, S. C., Wolke, O. N., Phillips, J. M., Reiss, A.L., and Hardan, A.Y. (2020) Genetic and environmental influences on cortico-striatal circuits in twins with autism. *Journal of Psychiatry and Neuroscience*, 45: pp. 188-197. DOI: <https://doi.org/10.1503/jpn.190030>.

## Curriculum vitae

### John P. Hegarty II, PhD

- Hegarty, J.P.,II**, Lazzeroni, L. C., Raman, M.M., Pegoraro, L. F. L., Monterrey, J. C., Cleveland, S. C., Hallmayer, J.F., Wolke, O. N., Phillips, J. M., Reiss, A.L., and Hardan, A.Y. (2020) Genetic and environmental influences on lobar brain structures in twins with autism. *Cerebral Cortex*, 30(3): pp. 1946-1956. DOI: <https://doi.org/10.1093/cercor/bhz215>.
- Hegarty, J.P., II**, Zamzow, R. M., Ferguson, B.J., Christ, S.E., Porges, E.C., Johnson, J.D., and Beversdorf, D. Q. (2020) Beta-adrenergic antagonism alters functional connectivity during associative processing in a preliminary study of individuals with and without autism. *Autism*, 24(3): pp. 795-801. DOI: <https://doi.org/10.1177/1362361319868633>.
- Nair, N., **Hegarty, J.P., II**, Ferguson, B.J., Hooshmand, S.J., Hecht, P.M., Tilley, M.R., Christ, S.E., and Beversdorf, D.Q. (2020) Effects of stress on functional connectivity during verbal processing. *Brain Imaging and Behavior*, 14: pp. 2708-2723. DOI: <https://doi.org/10.1007/s11682-019-00221-5>.
- Nair, N., **Hegarty, J.P., II**, Ferguson, B.J., Hecht, P.M., Tilley, M., Christ, S.E., and Beversdorf, D.Q. (2020) Effects of stress on functional connectivity during problem solving. *Neuroimage*, 208: pp. 116407. DOI: <https://doi.org/10.1016/j.neuroimage.2019.116407>.
- Hegarty, J.P.,II**, 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., and Hardan, A.Y. (2019) Genetic and environmental influences on structural brain measures in twins with autism spectrum disorder. *Molecular Psychiatry*, 25: pp. 2556-2566. DOI: <https://doi.org/10.1038/s41380-018-0330-z>.
- Hegarty, J.P.,II**, Hardan, A.Y., and Müller, R.A. (2019) Brain connectivity theories of autism. In F.R. Volkmar (Ed.), *Encyclopedia of Autism Spectrum Disorders*, 2nd Edition, New York: Springer. DOI: [https://doi.org/10.1007/978-1-4614-6435-8\\_102064-1](https://doi.org/10.1007/978-1-4614-6435-8_102064-1).
- Hegarty, J.P.,II**, Gengoux, G.W., Berquist, K.L., Millan, M.E., Tamura, S.M., Karve, S., Rosenthal, M.D., Phillips, J.M., and Hardan, A.Y. (2019) A Pilot Investigation of Neuroimaging Predictors for the Benefits from Pivotal Response Treatment for Children with Autism, *Journal of Psychiatric Research*, 111: pp. 140-144. DOI: <https://doi.org/10.1016/j.jpsychires.2019.02.001>.
- Hegarty, J.P.,II**, Gu, M., Spielman, D.M., Cleveland, S.C., Hallmayer, J.F., Lazzeroni, L.C., Raman, M.M., Frazier, T.W., Phillips, J.M., Reiss, A.L., and Hardan, A.Y. (2018) A proton MR spectroscopy study of the thalamus in twins with autism. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 81: pp. 153-160, DOI: <https://doi.org/10.1016/j.pnpbp.2017.09.016>.
- Hegarty, J.P.,II**, Hardan, A.Y., and Frazier, T.W. (2018) Corpus callosum. In F.R. Volkmar (Ed.), *Encyclopedia of Autism Spectrum Disorders*, 2nd Edition, New York: Springer-Verlag. DOI: [https://doi.org/10.1007/978-1-4614-6435-8\\_669-3](https://doi.org/10.1007/978-1-4614-6435-8_669-3).
- Hegarty, J.P.,II**, Hardan, A.Y., and Frazier, T.W. (2018) Agenesis of the corpus callosum. In F.R. Volkmar (Ed.), *Encyclopedia of Autism Spectrum Disorders*, 2nd Edition, New York: Springer-Verlag, DOI: [https://doi.org/10.1007/978-1-4614-6435-8\\_657-3](https://doi.org/10.1007/978-1-4614-6435-8_657-3).
- Hegarty, J.P.,II**, Hardan, A.Y., and Frazier, T.W. (2018) Corpus callosum abnormalities in autism. In F.R. Volkmar (Ed.), *Encyclopedia of Autism Spectrum Disorders*, 2nd Edition, New York: Springer-Verlag, DOI: [https://doi.org/10.1007/978-1-4614-6435-8\\_1913-3](https://doi.org/10.1007/978-1-4614-6435-8_1913-3).
- Hegarty, J.P.,II**, Weber, D.J., Cirstea, C.M. and Beversdorf, D.Q. (2018) Cerebro-cerebellar functional connectivity is associated with cerebellar excitation-inhibition balance in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 48(10): pp. 3460-3473, DOI: <https://doi.org/10.1007/s10803-018-3613-y>.
- Hegarty, J.P., II**, Ferguson, B.J., Zamzow, R. M., Rohowetz, L.J., Johnson, J.D., Christ, S.E. and Beversdorf, D. Q. (2017) Beta-adrenergic antagonism modulates functional connectivity in the

## Curriculum vitae

### John P. Hegarty II, PhD

default mode network of individuals with and without autism spectrum disorder. *Brain Imaging and Behavior*, 11(5): pp. 1278-1289. DOI: <https://doi.org/10.1007/s11682-016-9604-8>.

Chica, M. G., **Hegarty, J. P., II**, and Schneider, K. A. (2015) Morphological differences in the lateral geniculate nucleus associated with dyslexia. *Neuroimage: Clinical*, 7: pp. 830-836. DOI: <https://doi.org/10.1016/j.nicl.2015.03.011>.

Hesse, C., Floyd, K., Rauscher, E., Frye-Cox, N., **Hegarty, J.P., II**, and Peng, H. (2013) Alexithymia and impairment of decoding of positive affect: An fMRI Study. *Journal of Communication*, 63(4): pp. 786-806. DOI: <https://doi.org/10.1111/jcom.12039>.

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## Invited Talks

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**Hegarty, J.P., II.** (2022) Biomarkers for targeting the neurobiology of neurodevelopmental disorders. Oral presentations at Chapman University Brain Institute, April 8, Orange, CA; Stanford University Center for Precision Mental Health and Wellness. May 5, Stanford, CA: and Rutgers University Brain Health Institute, May 19, Piscataway, NJ.

**Hegarty, J.P., II.** (2021) NIH Loan Repayment Programs (LRPs): An Overview. Oral presentation for the NIH LRP Ambassador Presentation and Discussion Panel to Stanford postdocs and graduate students. October 1, Stanford, CA.

**Hegarty, J.P.,II.,** Monterrey, J.C., Lazzeroni, L.C., Cleveland, S.C., Phillips, J.M., Hallmayer, J.F., and Hardan, A.Y. (2021) Genetic and environmental influences on brain structure in twins with autism. Oral session presented at the virtual 2021 meeting of the International Society for Autism Research, May 3-7.

**Hegarty, J.P.,II.,** Monterrey, J.C., Lazzeroni, L.C., Cleveland, S.C., Phillips, J.M., Hallmayer, J.F., and Hardan, A.Y. (2021) Genetic and environmental influences on brain structure in twins with autism. Oral session presented at the *virtual* 2021 meeting of the Stanford Autism Update, March 20.

**Hegarty, J.P., II.** (2020) NIH Loan Repayment Programs (LRPs): An Overview. Oral presentation for the NIH LRP Ambassador Presentation and Discussion Panel to Stanford postdocs and graduate students. October 8, Stanford, CA.

**Hegarty, J.P.,II.,** Monterrey, J.C., Lazzeroni, L.C., McNab, J.A., Cleveland, S.C., Hallmayer, J.F., and Hardan, A.Y. (2020) Genetic and environmental influences on white matter integrity in twins with autism. Oral presentation converted to *virtual* poster at the 2020 meeting of the International Society for Autism Research. June 3.

**Hegarty, J.P.,II.,** Lazzeroni, L.C., Raman, M.M., Hallmayer, J.F., Cleveland, S.C., Wolke, O.N., Phillips, J.M., Reiss, A.L., and Hardan, A.Y. (2019) Genetic and environmental influences on structural brain measures in twins with autism. Oral presentation at the 2019 meeting of the International Society for Autism Research. May 1-4, Montreal, Quebec Canada.

Beversdorf, D., Nair, N., **Hegarty, J.P., II**, Ferguson, B., Riecken, C., Hecht, P., Tilley, M., and Christ, S. (2019) Effect of stress on functional connectivity during problem solving. Oral presentation at the 2019 meeting of the Society for the Neuroscience of Creativity, March 22, San Francisco, CA.

**Hegarty, J.P.,II.,** Gu, M., Spielman, D.M., Cleveland, S.C., Hallmayer, J.F., Lazzeroni, L.C., Raman, M.M., Frazier, T.W., Phillips, J.M., Reiss, A.L., and Hardan, A.Y. (2018) Genetic and environmental influences on cortico-striato-thalamo-cortical circuits in twins with autism. Oral presentation at the 2018 meeting of the International Society for Autism Research, May 9-12, Rotterdam, Netherlands.

**Hegarty, J.P.,II,** Gengoux, G.W., Berquist, K.L., Millan, M.E., Tamura, S.M., Karve, S., Rosenthal, M.D., Phillips, J.M., and Hardan, A.Y. (2018) Neuroimaging Predictors of Response to

## Curriculum vitae

### John P. Hegarty II, PhD

Pivotal Response Treatment. Oral presentation at the 2018 Stanford Autism Update, March 17, Stanford, CA.

**Hegarty, J.P.,II.**, Weber, D., and Beversdorf, D.Q. (2016) Cerebellar connectivity and glutamatergic metabolite concentration in ASD as assessed by fMRI/MRS. Oral presentation at the 2016 meeting of the International Meeting for Autism Research, May 11-14, Baltimore, MD.

Murphy, C., Haase, L., Morgan C.D., Green, E., Kowalowski, J., Bartholow, J, Zamora, R., **Hegarty, J.P., II**, and Jacobson, (2012) Neuroimaging of chemosensory dysfunction. Oral presentation at the 2012 meeting of the Association for Chemoreception Sciences, April 25-28, Manhattan Beach, CA

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## Poster Presentations

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- Dhawan, E., **Hegarty, J.P.,II.**, Uljarević, M., Libove R.A., and Hardan, A.Y. (2022). Sex differences in social communication between males and females with autism. Poster presented at the 2022 meeting of the International Society for Autism Research, May 11-14; Austin, TX
- Scott, T., **Hegarty, J.P.,II.**, Cole, E.C., and Hardan, A.Y. (2021). Brain structure and potential psychosis risk in children with autism spectrum disorder. Poster presented at the *virtual* 2021 BioX Stanford BIO-X Undergraduate Summer Research Program Symposium, August 30.
- Jeoung, H., **Hegarty, J.P.,II.**, Cole, E.C., and Hardan, A.Y. (2021). The fusiform face area and facial communication in children with autism. Poster presented at the *virtual* 2021 Wu Tsai Neurosciences Institute Neurofellowship Symposium, August 27.
- Dixon, S.C., **Hegarty, J.P.,II.**, Libove R.A., Cole, E.C., and Hardan, A.Y. (2021). Cerebellar white matter integrity is associated with language abilities in autism spectrum disorder. Poster presented at the *virtual* 2021 Human Biology Research Exploration (HB-REX) symposium, August 13.
- Dhawan, E., **Hegarty, J.P.,II.**, Cole, E.C., Uljarević, M., Libove R.A., and Hardan, A.Y. (2021). Sex differences in social communication between males and females with autism. Poster presented at the *virtual* 2021 Human Biology Research Exploration (HB-REX) symposium, August 13.
- Hegarty, J.P.,II.**, Monterrey, J.C., Lazzeroni, L.C., Cleveland, S.C., Phillips, J.M., Hallmayer, J.F., and Hardan, A.Y. (2021) Genetic and environmental influences on brain structure in twins with autism. Poster presented at the *virtual* 2021 meeting of the Society for Neuroscience Global Connectome, January 11-13.
- Gong, J., **Hegarty, J.P.,II.**, Lazzeroni, L.C., Cleveland, S.C., Phillips, J.M., Hallmayer, J.F., and Hardan, A.Y. (2020) A twin study of sensory processing in children with autism spectrum disorder. Poster presented at the virtual 2020 meeting of the International Society for Autism Research, June 3.
- Frayne, M., **Hegarty, J.P.,II.**, Lazzeroni, L.C., Cleveland, S.C., Phillips, J.M., Hallmayer, J.F., and Hardan, A.Y. (2020) Exploring genetic and environmental influences on anxiety and depressive disorders in twins with autism. Poster presented at the virtual 2020 meeting of the International Society for Autism Research, June 3.
- Riecken, C., Ferguson, B.J., Nieters, A., **Hegarty, J.P.,II.**, and Beversdorf, D.Q. (2020) Grey matter volume predicts changes in social behavior due to single-dose propranolol in autism spectrum disorder. Poster presented at the virtual 2020 meeting of the International Society for Autism Research, June 3.
- Riecken, C., Scales, D., **Hegarty, J.P.,II.**, Zamzow, R.M., Beversdorf, D.Q., and Ferguson, B. (2019) Gastrointestinal symptomatology is associated with amygdalar reactivity to negative facial affect in autism spectrum disorder. Poster presented at the 2019 meeting of the Society for Neuroscience, October 19-23, Chicago, IL.
- Riecken, C., Nair, N., **Hegarty, J.P., II**, Ferguson, B., Hecht, P., Tilley, M., Christ, S., and Beversdorf, D.

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### John P. Hegarty II, PhD

(2019) Effects of stress on functional connectivity during problem solving. Poster presented at the 2019 meeting of the American Neurological Association, Oct 13-15, St Louis, MO.

**Hegarty, J.P.II.**, Gengoux, G.W., Berquist, K.L., Millan, M.E., Tamura, S.M., Karve, S., Rosenthal, M.D., Phillips, J.M., and Hardan, A.Y. (2019) Neuroimaging predictors of benefits from Pivotal Response Treatment for children with autism. Poster presented at the 2019 meeting of the Thompson Center Autism Conference, September 26-27, Chesterfield, MO.

Beversdorf, D.Q., Nair, N., **Hegarty, J.P., II**, Ferguson, B.J., Hecht, P., Tilley, M., Johnson, J.D., and Christ, S.E. (2019) Exploring functional connectivity correlates of problem solving under stress. Poster presented at the 2019 meeting of the American Academy of Neurology, May 6, Philadelphia, PA.

Nair, N., **Hegarty, J.P., II**, Ferguson, B.J., Hooshmand, S.J., Hecht, P., Tilley, M.R., Christ, S.E., and Beversdorf DQ. (2018) Stress alters functional connectivity in language processing regions of the brain during verbal fluency tasks. Poster presented at the 2018 meeting of the Society for Neuroscience, November 7, San Diego, CA.

Beversdorf, D., Nair, N., **Hegarty, J.P., II**, Hover, E., Hooshmand, S., Ferguson, B., Tilley, M., and Christ, S. (2017) Stress-induced alterations in functional connectivity during verbal fluency. Poster presented at the 2017 meeting at the American College of Neuropsychopharmacology, December 6, Palm Springs, CA.

**Hegarty, J.P.,II.**, Gu, M., Spielman, D., Cleveland, S., Hallmayer, J., Lazzeroni, L., Raman, M., Frazier, T.W., Phillips, J.M., Reiss, A.L., and Hardan, A.Y. (2017) Striatal and thalamic metabolite levels and restricted and repetitive behaviors in twins with autism spectrum disorder. Poster presented at the 2017 meeting of the International Meeting for Autism Research, May 10-13, San Francisco, CA.

**Hegarty, J.P.,II.**, Gengoux, G.W., Phillips, J.M., Tanaka, S., Frazier, T.W., Reiss, A.L., and Hardan, A.Y. (2017) Structural neuroimaging predictors of benefits from Pivotal Response Treatment. Poster presented at the 2017 meeting of the International Meeting for Autism Research, May 10-13, San Francisco, CA.

Beversdorf, D., Nair, N., **Hegarty, J.P, II**, Lane, K., Ferguson, B., Hecht, P., Tilley, M., Johnson, J., and Christ, S. (2017) Stress-mediated alterations of amygdalar activation and cortical network coherence associated with serotonin transporter polymorphisms. Poster presented at the 2017 meeting of the American Academy of Neurology, April 22-28, Boston, MA.

Beversdorf, D., Nair, N., **Hegarty, J.P, II**, Lane, K., Ferguson, B., Hecht, P., Tilley, M., Johnson, J., and Christ, S. (2017) Stress-mediated alterations of amygdalar activation and cortical network coherence associated with serotonin transporter polymorphisms. Poster presented at the 2017 meeting of the Cognitive Neuroscience Society, March 25-28, San Francisco, CA.

Nair, N., **Hegarty, J.P., II**, Lane, K., Ferguson, B., Hecht, P., Christ, S., Tilley, M., Kanne, S., and Beversdorf, D. (2016) Effects of genetics and stress on amygdalar activation and associated functional connectivity using fMRI. Society for Neuroscience, November 12-16, San Diego, CA

**Hegarty, J.P.,II.**, Gu, M., Spielman, D., Cleveland, S., Hallmayer, J., Lazzeroni, L., Raman, M., Frazier, T.W., Phillips, J.M., Reiss, A.L., and Hardan, A.Y. (2016) Thalamic metabolite levels and sensory processing abnormalities in twins with autism spectrum disorder. Poster presented at the 2016 meeting of the American Academy of Child and Adolescent Psychiatry, Oct 24-29, New York, NY.

Hardan, A.Y., Gengoux, G.W., **Hegarty, J.P.,II.**, Phillips, J.M., Tanaka, S., Frazier, T.W., and Reiss, A.L. (2016) Neuroimaging predictors of benefits from Pivotal Response Treatment. Poster presented at the 2016 meeting of the International Meeting for Autism Research, May 11-14, Baltimore, MD.

**Hegarty, J.P.,II.**, Gu, M., Spielman, D., Cleveland, S., Hallmayer, J., Lazzeroni, L., Raman, M., Frazier, T.W., Phillips, J.M., Reiss, A.L., and Hardan, A.Y. (2016) Cerebellar metabolite levels and social-communication impairments in twins with autism spectrum disorder. Poster presented at the

## Curriculum vitae

### John P. Hegarty II, PhD

2016 meeting of the International Meeting for Autism Research, May 11-14, Baltimore, MD.

- Beversdorf, D.Q., Weber, D., and **Hegarty, J.P., II.** (2015) Cerebellar connectivity and glutamatergic metabolite concentration in ASD as assessed by fMRI/MRS. American Academy of Neurology, April 19, Vancouver, B.C., Canada.
- Hegarty, J.P.,II.**, Gu, M., Spielman, D., Cleveland, S., Hallmayer, J., Lazzeroni, L., Raman, M., Frazier, T.W., Phillips, J.M., Reiss, A.L., and Hardan, A.Y. (2016) Cerebellar metabolite levels and social-communication impairments in twins with autism spectrum disorder. Poster presented at the 2016 meeting of the Bay Area Autism Consortium, March, Redwood City, CA.
- Beversdorf, D.Q., Weber, D., and **Hegarty, J.P., II.** (2015) Cerebellar connectivity and glutamatergic metabolite concentration in ASD as assessed by fMRI/MRS. Cognitive Neuroscience Society, April 2-5, New York, NY.
- Hegarty, J.P., II**, Weber, D., and Beversdorf, D.Q. (2015) Cerebellar connectivity and glutamatergic metabolite concentration in ASD as assessed by fMRI/MRS. American College of Neuropsychopharmacology, December 6-10, Hollywood, FL.
- Zamzow, R.M., Johnson, J.D., **Hegarty, J.P., II**, Yao, G., Beversdorf, D.Q., and Christ, S.E. (2015) Altered resting state functional network and modular topology in autism spectrum disorder, phenylketonuria, and traumatic brain injury. International Meeting for Autism Research, May 13-16, Salt Lake City, UT.
- Hegarty, J.P.,II**, Ferguson, B.J., Christ, S.E. and Beversdorf, D.Q. (2015) Beta-adrenergic antagonism modulates default mode network coherence in autism spectrum disorder. Poster presented at the 2015 meeting of the International Meeting for Autism Research, May 13-16, Salt Lake City, UT.
- Zamzow, R.M., Johnson, J.D., **Hegarty, J.P., II**, Yao, G., Beversdorf, D.Q., and Christ, S.E. (2015) Altered resting state functional network and modular topology in autism spectrum disorder, phenylketonuria, and traumatic brain injury. International Meeting for Autism Research, May 13-16, Salt Lake City, UT.
- Hegarty, J.P.,II**, Ferguson, B.J., Christ, S.E. and Beversdorf, D.Q. (2015) Beta-adrenergic antagonism modulates default mode network coherence in autism spectrum disorder. Poster presented at the 2015 meeting of the Cognitive Neuroscience Society, March 28-31, San Francisco, CA.
- Zamzow, R.M., Johnson, J.D., **Hegarty, J.P.,II**, Yao, G, Beversdorf, D.Q., and Christ, S.E. (2015) Altered resting state functional network and modular topology in autism spectrum disorder, phenylketonuria, and traumatic brain injury. Cognitive Neuroscience Society, March 28-31, San Francisco, CA
- Hegarty, J.P.,II**, Ferguson, B.J., Kille, B.M., Christ, S.E. and Beversdorf, D.Q. (2014) Network coherence and autism spectrum disorders: The effects of *beta*-adrenergic antagonists. Poster presented at the 2014 meeting of the Society for Neuroscience, November 15-19, Washington, D.C.
- Zamzow, R.M., Johnson, J.D., **Hegarty, J.P.,II**, Yao, G, Beversdorf, D.Q., and Christ, S.E. (2014) Altered resting state functional network topology in autism, phenylketonuria, and traumatic brain injury. Society for Neuroscience, November 15-19, Washington, DC.
- Hegarty, J.P.,II**, Ferguson, B.J., Christ, S.E. and Beversdorf, D.Q. (2014) Stress-mediated alterations of cortical network coherence associated with serotonin transporter polymorphisms. Poster presented at the 2014 meeting of the Cognitive Neuroscience Society, April 5-8, Boston, MA.
- Hegarty, J.P.,II**, Ferguson, B.J., Christ, S.E., Mazurek, M.O., and Beversdorf, D.Q. (2013) Cortical network alterations during verbal and emotional processing: the differential effects of beta-adrenergic antagonists on autism spectrum disorder symptomatology. Poster presented at the 2013 meeting the Society for Neuroscience, November 9-13, San Diego, CA.
- Hegarty, J.P.,II**, Ferguson, B.J., Zamzow, R.M., Christ, S.E., Mazurek, M.O., and Beversdorf, D.Q. (2013) Cortical network flexibility during facial and emotional processing: the effect of beta-adrenergic antagonists. Poster presented at the 2013 meeting of the International Society for Autism



## Curriculum vitae

### John P. Hegarty II, PhD

Research, May 2-4, San Sebastian, Spain.

- Hegarty, J.P.,II**, Ferguson, B.J., Zamzow, R.M., Christ, S.E., Mazurek, M.O., and Beversdorf, D.Q. (2013) Cortical network flexibility during administration of beta-adrenergic antagonists: an autism spectrum disorder study. Poster presented at the 2013 meeting of the Cognitive Neuroscience Society, April 23-26, San Francisco, CA.
- Hegarty, J.P., II**, Narayanan, A., Ferguson, B.J., McKinley, C.R., Huddlesonsmith, K., Christ, S.E., and Beversdorf, D.Q. (2012) Beta-adrenergic modulation of functional connectivity during cognitive flexibility and verbal fluency tasks: a pharmacological autism spectrum disorder study. Poster presented at the 2012 meeting of the Society for Neuroscience, October 13-17, New Orleans.
- Hegarty, J.P., II**, Narayanan, A., White, C., Abduljalil, A., Schmalbrock, P., Ferguson, B.J., McKinley, C.R., and Beversdorf, D.Q. (2012) Functional connectivity in ASD with pharmacological modulation of the beta-adrenergic system. Poster presented at the 2012 meeting of the International Society for Autism Research, May 17-19, Toronto, Canada
- Hegarty, J.P., II**, Ferguson, B.J., Hopkins, N.H., Christ, S., and Beversdorf, D.Q. (2012) Stress-mediated alterations of cortical activation during a cognitive flexibility task. Poster presented at the 2012 meeting of the Cognitive Neuroscience Society, March 31-April 3, Chicago, IL.
- Hegarty, J.P., II**, Ferguson, B., Christ, S., Tilley, M., and Beversdorf, D.Q. (2011). Stress-mediated alterations of functional connectivity during semantic and phonological processing. Poster presented at 2011 meeting of the Society for Neuroscience, November 12-16, Washington, D.C.
- Hegarty, J.P., II**, Ferguson, B., Christ, S., Tilley, M., and Beversdorf, D.Q. (2011). Stress-mediated alterations of functional connectivity during semantic and phonological processing. Poster presented at 2011 meeting of MU Health Sciences Research Day, November 3, Columbia, MO.
- Hegarty, J.P., II**, Ferguson, B., Hartman, A., Day, J.R., Jones, K.L., Christ, S., Tilley, M., Kanne, S., and Beversdorf, D.Q. (2011) Effects of stress and genetics on functional connectivity in fMRI. Poster presented at the 2011 meeting of the Cognitive Neuroscience Society, April 2-5, San Francisco, CA.
- Hegarty, J.P., II**, Ferguson, B., Jones, K.L., Christ, S., Tilley, M., Kanne, S., and Beversdorf, D.Q. (2011) Effects of stress on functional connectivity across language networks. Poster presented at the 2011 meeting of the University of Missouri Life Sciences and Society Symposium, March 18-20, Columbia, MO.
- Hegarty, J.P., II**, Ferguson, B., Jones, K.L., Christ, S., Tilley, M., Kanne, S., and Beversdorf, D.Q. (2011) Effects of stress on functional connectivity across language networks. Poster presented at the 2011 meeting of the University of Missouri Translational Neuroscience Symposium, February 27-March 1, Columbia, MO.
- Hegarty, J.P., II**, Sumida, C., and Murphy, C.M. (2010) Predictive power of apolipoprotein (APOE) status for volumes of medial temporal lobe structures. Poster presented at the 2010 meeting of the Society for Neuroscience, November 13-17, San Diego, CA.
- Hegarty, J.P., II**, and Murphy, C. M. (2009) Associations of olfactory and verbal false positives and the entorhinal cortex: a volumetric MRI study. Poster presented at the 2009 meeting of the Society for Neuroscience, October 17-21, Chicago, IL.
- Cantalupo, C., **Hegarty, J.**, Swavley, N., and Hopkins, W.D. (2006) Asymmetry of the insular cortex in the chimpanzee: A Volumetric MRI study. Poster presented at the 2006 meeting of the Society for Neuroscience, October 14-18, Atlanta, GA.
- Cantalupo, C., Rodes, W. M., **Hegarty, J.**, Freeman, H., and Hopkins, W. D. (2005) Morphological variability of the frontal operculum in the great ape brain: a valuable source of information for the study of the asymmetry of language areas. Poster presented at the 2005 meeting of the Society for Neuroscience, November 12-16, Washington, D.C.

**Curriculum vitae**  
**John P. Hegarty II, PhD**

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**Honors/Awards**

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- National Institutes of Health Loan Repayment Program Award from the National Institute of Child Health and Human Development 2020-2024
- Stanford University Bass Society of Pediatric Scholars Postdoctoral Research Fellowship 2015-2020
- Bay Area Autism Consortium International Meeting for Autism Research Travel Grant 2016
- Bay Area Autism Consortium Best Poster Award 2016
- University of Missouri Advancing Neuroscience at MU Honorable Mention 2014
- University of Missouri Chancellor's Award for Community Outreach 2014
- University of Missouri Mizzou Advantage Conference Travel Scholarship 2014
- University of Missouri Graduate Professional Council Conference Travel Scholarship 2010,2012,2014
- International Meeting for Autism Research Student Travel Award 2013
- San Diego State University Bryson-Kissinger Master's Award for Outstanding Thesis 2010
- Clemson University Honors College Departmental and General Honors 2006
- Clemson University Dean's List 2002-2006

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**Academic Service**

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- Stanford University Center for Precision Mental Health and Wellness Associate Director of Strategic Program Development 2022-Present
- Stanford University Autism Center Executive Committee 2022-Present
- Stanford University Clinical Human Subjects Research Committee 2020-2022
- International Society for Autism Research Website Committee Chair 2019-2021
- Stanford University Faculty Senate Postdoc Rep 2019-2020
- Stanford University Provost's Advisory Committee on Postdoctoral Affairs Postdoctoral Representative 2019-2020
- Stanford University Postdoctoral Association Co-chair 2019-2020
- Stanford University Postdoctoral Association Advocacy Coordinator 2018-2019
- Stanford University Postdoctoral Association Council Member 2016-2021
- University of Missouri Mizzou Adventures in Education Outreach Project Coordinator 2011-2015
- Society for Neuroscience Midwest Chapter Committee Member 2012-2013
- University of Missouri Graduate Professional Council Departmental Representative and Finance Committee Member 2011-2012
- San Diego State University Department of Psychological Sciences Master's Program Student Committee Member 2008-2009

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**Professional Memberships**

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- Stanford University Maternal and Child Health Research Institute 2021-Present
- Stanford University Wu Tsai Neurosciences Institute 2020-Present
- Bay Area Autism Consortium 2015-Present
- International Society for Autism Research 2011-Present

## Curriculum vitae

John P. Hegarty II, PhD

- Cognitive Neuroscience Society 2010-2014
- Society for Neuroscience 2005-Present
- National Society for Collegiate Scholars 2004-2006
- Clemson University Alpha Lambda Delta Honors Society 2003-2006

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## Invited Peer Review

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- Frontiers Psychiatry 2022
- Psychiatry Research: Neuroimaging 2021-2022
- Science Reports 2021
- Journal of Psychiatry and Neuroscience 2020-2021
- Australian and New Zealand Journal of Psychiatry 2019
- Research in Autism Spectrum Disorders 2019
- Neuroimage: Clinical 2019
- University of Ottawa Medical Research Fund 2019
- Autism Research 2018-2022
- Molecular Psychiatry 2018-2019
- Journal of Autism and Developmental Disorders 2017-2023
- Journal of Neurodevelopmental Disorders 2017-2018
- Molecular Autism 2016-2019
- Biological Psychiatry 2016
- Neuroinformatics 2012

**Research Support**

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*Current Support*

NIH Loan Repayment Program Award (**Hegarty**) 2022-2024

*Eunice Kennedy Shriver* National Institute of Child Health and Human Development

This merit-based award renewal was designed to retain highly qualified biomedical and biobehavioral researchers and repays up to half of educational loan for a commitment to non-profit research endeavors.

**Role: Award recipient**

NIH Career Development Award (**Hegarty** and Hardan) 2020-2025

National Institute of Child Health and Human Development (K99HD101702)

*Targeting the neurobiology of restricted and repetitive behaviors in children with autism using N-acetylcysteine* (NCT04278898)

The goal of this research is to use multi-modal MRI and EEG measures to examine the neurobiology of restricted and repetitive behaviors in children with ASD and examine the efficacy of N-acetylcysteine, a well-tolerated nutritional supplement and glutamatergic modulator, for targeting this neurobiology to reduce symptom severity.

**Role: Principal Investigator**

Stanford MCHRI Instructor K Support Program (**Hegarty**) 2021-2023

Stanford University Maternal and Child Health Research Institute

The Stanford MCHRI Instructor K-award Support Program provides supplemental support for Stanford Instructors on K-awards by providing 1:1 matching funds with the Instructor's home department to fund innovative maternal and child health-focused clinical and translational research.

**Role: Principal Investigator**

NIH Loan Repayment Program Award (**Hegarty**) 2020-2022

*Eunice Kennedy Shriver* National Institute of Child Health and Human Development

This merit-based award was designed to recruit and retain highly qualified biomedical and biobehavioral researchers and repays up to half of educational loan for a commitment to non-profit research endeavors.

**Role: Award recipient**

Stanford Learning Differences Seed Grant (McCandliss, Norcia, Abrams, Berger and **Hegarty**) 2021-2022

Stanford University Graduate School of Education

*Tuning into learner differences in sensory versus integrative experiences of the world: crossing boundaries of speech and music*

The goal of this project is to develop novel neuroimaging that may better characterize learner differences inherent to meaningfully engaging with complex real-world stimuli. This research will study individual differences in brain responses across children to see if they can help explain learning outcomes.

**Role: Co-investigator**

NIH Developmental Research Grant Award (Hardan and Gengoux) 2018-2022

National Institute on Deafness and Other Communication Disorders (1R21DC016089-01A1)

*Neuroimaging predictors of pivotal response treatment in young children with autism* (NCT03583684)

The goal of this research is to use multi-modal MRI techniques in young children with ASD that are participating in a clinical trial of pivotal response treatment to target language and communication abilities to identify neuroimaging predictors of treatment response.

**Role: Co-investigator**

## Curriculum vitae

**John P. Hegarty II, PhD**

### Completed Support

Stanford eWear Seed Grant (Miri, **Hegarty**, Hardan and Gross) 2020-2021

Stanford University Wearable Electronics Initiative

#### *Facilitating Affect Regulation in Youth with Autism Spectrum Disorder*

The goal of this research were to design, prototype, and evaluate a vibrotactile-based system that is tailored to assist youth diagnosed with ASD improve affect regulation in their everyday life.

**Role: Co-investigator**

Postdoctoral Research Fellowship (**Hegarty**) 2015-2020

Stanford University Bass Society of Pediatric Scholars

The goals of my postdoctoral training and research were to develop expertise in the neuroimaging assessment of young children with neurodevelopmental disorders in order to identify the neurobiology underlying specific symptom domains and develop objective biomarkers.

**Role: Award recipient**

Pediatric Imaging Research Grant (**Hegarty**, Spielman, and Hardan) 2017-2019

Stanford University Department of Radiology

#### *Multi-modal neuroimaging of the cerebellum in children with ASD*

The goal of this research was to apply multi-modal MRI techniques, especially advanced proton spectroscopy to examine neurochemical levels, in children with ASD and aged-matched controls in order to provide a comprehensive in vivo examination of cerebellar abnormalities in children with ASD.

**Role: Co-investigator**

Bio-X Interdisciplinary Initiatives Seed Grant (Kuhl and Hardan) 2015-2016

Stanford University School of Medicine

#### *Understanding Gyrfication Dynamics in the Human Brain*

The goal of this project was to identify how mechanics can help to address the major challenges of understanding cortical folding in ASD. Within this pilot study, we were also able to collect baseline data from young children with ASD before they participated in a trial of Pivotal Response Treatment, which was used as pilot data to support the NIH Developmental Research Grant listed above.

**Role: Project Manager**

Brain Imaging Center Pilot Grant (**Hegarty** and Beversdorf) 2014-2015

University of Missouri Department of Psychological Sciences

#### *Cerebellar glutamatergic/GABAergic signaling and neocortical projections in autism spectrum disorders: a multi-modal study of resting state functional connectivity and spectroscopy MRI*

The goal of this research was to determine whether disturbances in the glutamatergic or GABAergic systems in the cerebellum were observable in individuals with ASD *in vivo* and assess how they are related with cerebro-cerebellar connectivity and autism-related symptom presentation.

**Role: Co-Investigator**

NIH Maternal and Child Health Research Program (Beversdorf) 2011-2013

Health Resources and Services Administration (1R40MC19926)

#### *Effects of propranolol across a range of tasks on sympathetic reactivity and functional connectivity in autism.*

The goal of this research was to assess how propranolol, a beta-adrenergic antagonist, affects cognition across different psychological and behavioral domains in individuals with ASD and examine how these effects are modulated by the peripheral and central nervous system using fMRI.

**Role: Project Manager**