**Academic Positions:**

2015-present Research Assistant Professor of Behavioral Neuroscience in Psychiatry

Department of Psychiatry, Neuropsychiatry

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2014-Present Associate Fellow at the Institute on Aging

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2013-2015 Research Associate

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**Education & Training:**

2010-2013 Post-doctoral Fellow

Department of Psychiatry, Neuropsychiatry

University of Pennsylvania. Philadelphia, Pennsylvania

2005-2010 Doctor of Philosophy (Ph.D.)- Behavioral Neuroscience

Oregon Health & Science University (OHSU). Portland, Oregon

1997-2001 Bachelor of Science (B.S.)- Biological Psychology

The College of William & Mary

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**Current manuscripts in press and under review:**

***Roalf, D.R****. Reddy Nanga, R.P., Rupert, P., Hariharan, H., Quarmley, M., Calkins, M.E., Dress, E., Prabhakaran, K., Elliott, M.A., Moberg, P.J., Gur, R.C., Gur, R.E., Reddy, R., & Turetsky, B.I., Glutamate imaging (GluCEST) reveals lower brain GluCEST contrast in patients on the*

*psychosis spectrum. Molecular Psychiatry (in press).*

***Roalf, D.R****., Moore, T.M., Mechanic-Hamilton, D., Wolk, D.A., Arnold, S.A., Weintraub, D.A., & Moberg, P.J., Bridging Cognitive Screening Tests in Neurological Disorders: A cross-walk between the s- MoCA and MMSE. Alzheimer’s & Dementia (in press).*

*Baum, G.L., Ciric, R****. Roalf, D.R****., Betzel, R.F., Moore, T.M., Shinohara, R.T., Kahn, A.E., Quarmley, M., Cook, P.A., Elliott, M.A., Ruparel, K., Gur, R.E., Gur, R.C., Bassett, D.S., & Satterthwaite, T.D. Modular segregation of structural brain networks supports the development of executive function in youth. Current Biology (in press)*

*Tang, E., Giusti, C., Baum, G., Gu, S., Kahn, A.E****., Roalf, D****., Moore, T., Ruparel, K., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D.S. Structural drivers of diverse neural dynamics and their evolution across development. Network Neuroscience (in press)*

*Betzel, R.F., Medaglia, J.D., Papadopoulos, L., Baum, G., Gur, R., Gur, R.* ***Roalf, D****., Satterthwaite, T.D., & Bassett, D.S., The modular organization of human anatomical brain networks: accounting for the cost of wiring. Nature Neuroscience (in press).*

***Roalf, D.R****., Quarmley, M., Calkins, M.E., Satterthwaite, T.D., Ruparel, K., Elliott, M.A., Gur, R.C., Gur, R.E., Moberg, P.J., & Turetksy, B.I.* Temporal Lobe Volume Decrements in Psychosis Spectrum Youths*. Schizophrenia Bulletin. (in press)*

*Moore, T.M., Reise, S.P.,* ***Roalf, D.R****., Satterthwaite, T.D., Davatzikos, C., Bilker, W.B., Port, A.M.,*

*Jackson, C.T., Ruparel, K., Savitt, A.P., Baron, R.B., Gur, R.E., & Gur, R.C. Development of an itemwise efficiency scoring method: concurrent, convergent, discriminant, and neuroimaging- based predictive validity assessed in a large community sample. Psychological Assessment. (in press)*

*Ciric, R., Wolf, D.H., Power, J.D.,* ***Roalf, D.R****., Baum, G., Ruparel, K., Shinohara, R.T., Elliott, M.A., Eickhoff, S.B., Davatzikos, C., Gur, R.C., Gur, R.E., Bassett, D.S., & Satterthwaite, T.D. Benchmarking confound regression strategies for the control of motion artifact in studies of functional connectivity. Neuroimage (in press).*

*Brennan L., Devlin, K.M., Xie, S.X., Mechanic-Hamilton, D.,Tran, B., Hurtig H.H., Chen-Plotkin, A.,*

*Chahine L., Morley, J.F., Duda, J.E.,* ***Roalf, D.R****., Dahodwala, N., Rick J. Trojanowski, J.Q., Moberg, P.J. & Weintraub, D.A. Neuropsychological subgroups in non-demented Parkinson’s disease: A latent class analysis. The Journal of Parkinson’s Disease. (in press)*

***Roalf, D.R****., Gur, R.E., Keefe, J., Martin, I.K., Ruparel, K., Calkins, M.E., Bilker, W.B., Consortium on the*

*Genetics of Schizophrenia, PAARTNERS Study Group, MGI Study Group, Nimgaokar, Almasy, L.,*

*Quillen, E. E., Go, R.C.P., Savage, R.M., Swerdlow, N., Braff, D. & Gur, R.C., Within individual variability of neurocognitive performance as an endophenotype in schizophrenia: evidence from three large family studies. (under review)*

***Roalf, D.R****., Schmitt, J.E., Vandekar, S.N., Satterthwaite, T.D., Shinohara, R.T., Yi, J., Ruparel, K., Elliott, M.A., Prabhakaran, K., Souders, M.C., McDonald-McGinn, D.M., Zackai, E.H., Gur, R.C., Emanual, B.S, & Gur, R.E. White matter microstructural deficits in 22q11.2 deletion syndrome: implications for psychosis. (under review)*

*Rosen, A.F.,G.,* ***Roalf, D.R****., Ruparel, K., Blake, J., Seelaus, K., Villa, P., Cook, P.A., Davatzikos, C., Elliott, M.A.,*

*Garcia de La Garza, A., Gennatas, E.D., Quarmley, M., Schmitt, J.E., Shinohara, R.T., Tisdall, M.D., Craddock, C., Gur, R.E., Gur, R.C. & Satterthwaite, T.D. Data-driven assessment of structural image quality. (under review).*

*Vandekar, S.N., Shou, H., Satterthwaite, T.D., Shinohara, R.T., Merikangas, A.K.,* ***Roalf, D.R.****, Ruparel, K., Gennatas, E.D., Elliott, M.A., Davatzikos, C., Gur, R.C., Gur, R.E., & Detre, J.A. Bivarate brain function-body growth in adolescence. (under review)*

*Moore, T.M., Basner, M., Hermosillo, E., Kabadi, S., Roalf, D.R., McGuire, S., Edker, A.J., Ruparel, K.,*

*Port, A.M., Jackson, C.T., Dinges, D.R., & Gur, R.C. Validation of the Cognition Test Battery for Spaceflight in a Sample of Highly Educated Adults. (under review)*

*Kuo, S., Almasy, L., Gur, R.C., Prasad, K.,* ***Roalf, D.R****., Gur, R.E., Nimgaonkar, V.L., & Pogue-Geile, M.F. Cognition and Functioning in Schizophrenia: A Genetic Basis for the Relationship. (under review)*

*Kelly, S., Jahanshad, N., Agartz, I, Andreassen, O., Fatouros-Bergman, H., Brouwer, R., Cahn, W., Calhoun, V., Cannon, D., Gabriel Castrillon, J., Chiapponi, C., Corvin, A., Trung Doan, N., Ehrlich, S., Cresp-Facorro, B., Flyckt, L., Fukunaga, M., Glahn, D., Gollub, R., Gur, R., Tordesillas- Gutierrez, D., Hashimoto, R., Hatton, S., Hibar, D., Hickie, I., Horacek, H., Lopez Jaramillo, C., Jonsson, E., Kahn, R., Kubicki, M., Knochel, Ch., Oertel-Knochel, V., Kikinis, Z., Lange, C., Lagopoulos, J., Lyall, A., Magnotta, V., Mandl, R., McDonald, C., Melicher, T., Newell, D., Pasternak, O., Piras, F., Pearlson, G., Pol, H.H.,* ***Roalf, D****., Roiz-Santianez, R., De Rossi, P., Rotenberg, D., Satterthwaite, T., Spalletta, G., Spaniel, Fl., Stablein, M., Tonnessen, S., Vanegas, A., Vargas, C., Voineskos, A., Westyle, L., White, T., Zhao, J., Thompson, P., Turner, J., & Donohoe, G. White matter differences in schizophrenia: Meta-analytic findings from ENIGMA- Schizophrenia DTI. (under review).*

*Tamnes, C.K.,* ***Roalf, D.R****., Goddings, A.L., Lebel, C. Diffusion MRI of white matter microstructure*

*development in childhood and adolescence: Methods, challenges and progress (in revision).*

*Kos, M.Z., Carless, M.A., Peralta, J., Curran, J.E., Quillen, E.E., Almedia, M., Blackburn, A., Blondell, L.,* ***Roalf, D.R****., Pogue-Geile, M.F., Gur, R.C., Goring, H.H.H., Nimgaonkar, V., Gur. R.E., & Almasy, L. Exome sequences of multiplex, multigenerational families reveal schizophrenia risk loci with implications for neurocognitive performance. (under review).*

*Roalf, D.R., & Gur. R.C. Functional brain imaging in neuropsychology over the past 25 years. (under review).*

*Turetsky, B.I., Moberg, P.J., Quarmley, M., Dress, E., Calkins, M.E., Ruparel, K., Prabhakaran, K., Gur,*

*R.E., &* ***Roalf, D.R****. Structural Anomalies of the Peripheral Olfactory System in the Psychosis Prodrome. (under review)*

*Wang, K., Liang, R., Ma, Z., Cheung, E.F.C,* ***Roalf, D.R****., Gur, R.C., & Chan, R.C.K. Body image attitude*

*among Chinese college students (under review)*

*Fortin, J.P., Parke, W.A., Tunc, B.,, Watanabe, T., Elliott, M.A, Ruparel, K.,* ***Roalf, D.R****., Satterthwaite,*

*T.D., Gur, R.C., Gur, R.E., Schultz, R.T., Verma, R. & Shinohara, R.T. Harmonization of multi-site diffusion tensor imaging data. (under review)*

*Kaczkurkin, A.N., Moore, T.M., Calkins, M.E., Ciric, R., Detre, J.A., Elliott, M.A>, Foa, E.B., Garcia de La Garza, A., Roalf, D.R., Rosen, A., Ruparel, K., Shinohara, R.T., Xia, C.H., Wolf, D.H., Gur, R.E., Gur, R.C., Satterthwaite, T.D. Common and Dissociable Regional Cerebral Blood Flow Differences Associate with Dimensions of Psychopathology Across Categorical Diagnoses. (under review)*

**Publications (2003-present):**

Turetsky, B.I., Moberg, P.J., **Roalf, D.R.**, Arnold, S.E., & Gur, R.E. **Decrements in**

**Volume of Anterior Ventromedial Temporal Lobe and Olfactory Dysfunction in Schizophrenia**. Archives of General Psychiatry, 2003; 60, 1193-1200.

Moberg, P.J., **Roalf, D.R.**, Gur, R.E., & Turetsky, B.I. Smaller nasal volumes as stigmata of aberrant neurodevelopment in schizophrenia. American Journal of Psychiatry, 2004; 161 (12), 2314- 2316.

Moberg, P.J., **Roalf, D.R.**, Balderston, C.C., Kanes, S.J., Gur, R.E., & Turetsky, B.I.

Phenylthiocarbamide (PTC) perception in patients with schizophrenia and first-degree family members. American Journal of Psychiatry, 2005; 162 (4), 788-790.

Robinson, K.M., Dennison, A.C., **Roalf, D.R.**, Noorigian, J.V., Cianci, H., Bunting-Perry, L, Kleiner-Fisman, G., Moberg, P., Duda, J., Stern, M.E.  Falling risk factors in Parkinson's disease:  pilot data and review of the literature.  NeuroRehabilitation, 2005; 20, 169-182.

**Roalf, D.R.**, Lowery, N. & Turetsky, B. I. Behavioral and Physiological Findings of

Gender Differences in Global-Local Visual Processing. Brain & Cognition, 2006; 60(1), 32-42.

Moberg, P.J., Arnold, S.E., **Roalf, D.R.**, Balderston, C., Abbazia, J., Kohler, C.G., Gur,

R.E., & Turetsky, B.I. Apolipoprotein E genotype and odor identification in schizophrenia. Journal of Neuropsychiatry and Clinical Neurosciences, 2006; 18, 231-233.

**Roalf, D.R.**, Turetsky, B.I., Owzar, K., Balderston, C.C., Johnson, S.C., Brensinger,

C.M., Gur, R.E., Siegel, S., Moberg, P.J. Unirhinal olfactory function in patients with schizophrenia and first-degree relatives. Journal of Neuropsychiatry and Clinical Neurosciences, 2006, 18, 389-396.

Moberg, P.J., Arnold, S.E., Doty, R.L., Gur, R.E., Balderston, C.C., **Roalf, D.R.**, Gur, R.C., Kohler, C.G., Kanes, S.J., Seigel, S.J., & Turetsky, B.I. Olfactory functioning in schizophrenia: Relationship to clinical, neuropsychological, and volumetric MRI measures. Journal of Clinical and Experimental Neuropsychology, 2006; 28, 1444-1461.

Moberg, P.J., McGue, C., Kanes, S.J., **Roalf, D.R.**, Balderston, C.C., Gur, R.E., Kohler, C.G., Turetsky, B.I. Phenylthiocarbamide (PTC) Perception in patients with schizophrenia and first-degree family members: Relationship to clinical symptomatology and psychophysical olfactory performance. Schizophrenia Research, 2007 Feb; 90 (1-3): 221-228.

Moberg, P.J., Balderston, C.C., Rick, J.H., **Roalf, D.R.**, Weintraub, D., Kleiner-Fisman,

G., Stern, M.B., & Duda, J.E. Phenylthiocarbamide (PTC) perception in Parkinson’s disease. Cognitive and Behavioral Neurology, 2007 Sept; 20(3):145-148.

# Pruis T.A., **Roalf, D.R.** & Janowsky, J.S. Hormone therapy does not modify emotion-

# induced brain activity in older women. Hormones & Behavior, 2009 Nov;56(5): 539-47.

**Roalf, D.R.**, Pruis T.A., Stevens, A.A. & Janowsky, J.S. More is less: Emotion induced prefrontal

cortex activity habituates in aging. Neurobiology of Aging, 2011. Sep; 32(9): 1634-1650.

**Roalf, D.R**., Mitchell, S.H., Harbaugh, W.T. & Janowsky, J.S. Risk, reward and economic decision-

making in aging. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences, 2012 May;67(3): 289-98. PMID: 21926401.

**Roalf, D.R.**, Ruparel, K., Verma, R., Elliott, M.A., Gur, R.E., & Gur, R.C. White matter organization

and neurocognitive performance variability in schizophrenia. Schizophrenia Research 2013 Jan; 143(1): 172-178.

**Roalf, D.R.** Moberg, P.J., Xie, S.X., Wolk, D.A., Moelter, S.T., & Arnold, S.E Comparative

accuracies of two common screening instruments for the classification of Alzheimer’s disease, mild cognitive impairment and healthy aging. Alzheimer’s & Dementia, 2013; 9:529- 537.

Satterthwaite, T.D., Wolf, D.H., Erus, G., Ruparel, K., Elliott, M.A., Gennatas, E.D., Hopson, R., Jackson, C., Parbhakaran, K., Bilker, W.B., Calkins, M.E., Loughead, J., Smith, A., **Roalf, D.R**., Verma, R., Hakonarson, H., Gur, R.C., & Gur, R.E. Functional maturation of the executive system during adolescence through network differentiation. Journal of Neuroscience, 2013 Oct 9;33(41):16249-61.

Satterthwaite, T.D., Ruparel, K., Wolf, D.H., Vandekar, S., Roalf, D.R., Jackson, C., Elliott, M.A., Bilker, W.B., Calkins, M.E., Parbhakaran, K., Davatzikos, C., Hakonarson, H., Gur, R.C., & Gur, R.E. Sex differences in the effect of puberty on hippocampal morphology. Journal of the American Academy of Child and Adolescent Psychiatry, 2014; 53(3):341-50.

**Roalf, D.R.,** Gur, R.C., Ruparel, K., Gerraty, R.T., Elliott, M.A., Gallagher, R.S., Almasy, L., Pogue-Geile, M.F.,

Prasad, K., Wood, J., Nimgaonkar, V.L., & Gur, R.E. Neurobehavioral predictors of cognitive performance across a standardized neurocognitive battery. Neuropsychology,2014.

28(2):161-76.

Cai, K., Singh, A., **Roalf, D.R**., Reddy Nanga, R.P., Haris, M., Hariharan, H., Gur, R.C., Reddy.R.

Mapping glutamate in subcortical brain structures using high-resolution GluCEST MRI. NMR in Biomedicine, 2013; 26(10):1278-84.

**Roalf, D.R.,** Gur, R.C., Almasy, L., Richard, J., Gallagher, R.S., Prasad, K., Wood, J., Pogue-Geile, M.F., Nimgaonkar, V.L., & Gur, R.E. Neurocognitive performance stability in a multiplex multigenerational study of schizophrenia. Schizophrenia Bulletin, 2013; 39(5):1008-17.

Sattertwaite, T.D., Shinohara, R.T., Wolf, D.H., Hopson, R., Elliott, M.A., Vandekar, S.N., Ruparel, K.,

Calkins, M.E., **Roalf, D.R**., Gennatas, E., Jackson, C., Erus, G., Davatzikos, C., Detre, J.A., Hakonarson, H., Gur, R.C., & Gur, R.E. Impact of puberty on the evolution of cerebral perfusion during adolescence. Proceedings of the National Academy, 2014 June 10; 111(23):8643-8

**Roalf, D.R**., Gur, R.E., Ruparel, K., Calkins, Satterthwaite, T.D., Bilker, W.B., Hakonarson, H., Harris, L.J. & Gur, R.C. Within-individual variability in neurocognitive performance:  Sex and age-related differences in youths from ages 8 to 21. Neuropsychology, 2014 Jul;28(4):506-18.

Schmitt, J.E., Yi., J.J., **Roalf, D.R**., Loevner, L.A., Ruparel, K. Whinna, D., Sounders, M.C., McDonald-

McGinn, D.M., Yodh, E., Vandekar, S., Zackai, E.H., Gur, R.C., Emanuel, B.S. & Gur, R.E. Incidental radiologic findings in the 22q11.2 deletion syndrome. American Journal of Neuroradiology, 2014 35(11): 2186-91.

Van Steenoven, I., Aarsland, D., Hurtig, H., Chen-Plotkin, A., Duda, J.E., Rick, J., Chahine, L.M., Dahodwala, N., Trojanowski, J.Q., **Roalf, D.R**., Moberg, P.J., & Weintraub, D., Conversion between Mini-Mental State Examination, Montreal Cognitive Assessment and Dementia Rating Scale-2 scores in Parkinson’s disease. Movement Disorders, 2014: 29(14): 1809-15.

Vandekar, S.N., Shinohara, R.T., Raznahan, A., **Roalf, D.R**., DeLeo, N., Ruparel, K., Wolf, D.H., Gur, R.C.,

Gur, R.E., & Satterthwaite, T.D. Topologically dissociable patterns of development of the human cerebral cortex. Journal of Neuroscience, 2015 Jan 14;35(2):599-609.

**Roalf, D.R**., Gur, R.E., Verma, R., Ruparel, K., Quarmley, M., & Gur, R.C., White matter microstructure:

relation to global neurocognition and clinical symptomatology. Schizophrenia Research, 2015 161(1): 42-49.

**Roalf, D.R.,** Vandekar, S.N., Almasy, L., Ruparel, K., Satterthwaite, T.D., Elliott, M.A., Podell, J.,

Gallagher, R.S., Jackson, C.T., Prasad, K., Wood, J., Pogue-Geile, M.F., Nimgaonkar, V.L., Gur, R.C., & Gur, R.C. Heritability of subcortical and limbic brain volume and shape in multiplex multigenerational families with schizophrenia. Biological Psychiatry, 2015 77(2): 137-46.

Satterthwaite, T.D., Wolf, D.H., **Roalf, D.R.,** Ruparel, K., Erus, G., Vandkar, S., Gennatas, E., Elliott, M.A.,

Smith, A., Hakonarson, H., Verma, R., Davatzikos, C., Gur, R.E., & Gur, R.C. Linked sex differences in cognition and functional connectivity in youth. Cerebral Cortex. 2015 Sep;25(9):2383-94

Schmitt, J.E, Vandekar, S.N, Ruparel, K. **Roalf, D.R.,** Whinna, D., Sounders, M.C.., Satterthwaite, T.D.,

Prabhakaran, K., MCGinn, D.M., Zackai, E.H., Emanuel, B.S. & Gur, R.E. Aberrant Cortical Morphometry in the 22q11.2 Deletion Syndrome. Biological Psychiatry. 2015 Jul 15;78(2):135-143.

Satterthwaite, T.D., Vandekar, S.N., Wolf, D.W., Bassett, D.S., Ruparel, K., Shezad, Z., Craddock, C.,

Shinohara, R.T., Moore, T.M., Jackson, C., **Roalf, D.R**., Calkins, M.E., Milham, M.P., Hakonarson, H., Gur, R.C., & Gur, R.E. Connectome-wide network analysis of youth with psychosis spectrum symptoms. Molecular Psychiatry. 2015 Dec;20(12):1508-15.

Calkins, M.E., Merikangas, K.R., Moore, T.M., Burstein, M., Chiavacci, R., Satterthwaite, T.D., Ruparel,

K., Wolf, D.H., **Roalf, D.R.,** Hakonarson, H., Gur, R.C., & Gur, R.C. The Philadelphia Neurodevelopmental Cohort: Construction and Deep Phenotyping Collaborative. Journal of Child Psychology and Psychiatry. 2015 Dec; 56:1356-1369.

Satterthwaite, T.D., Connolly, J.J., Ruparel, K., Calkins, M.E., Jackson, C., Elliott, M.A., **Roalf, D.R.**,

Hopson, R., Prabhakaran, K., Behr, M., Qui H., Mentch, F.D, Chiavacci, R., Sleiman, P.M., Gur, R.C., Hakonarson, H., & Gur, R.E. The Philadelphia Neurodevelopmental Cohort: A publicly available resource for the study of normal and abnormal brain development in youth. Neuroimage. 2016 Jan 1;124(Pt B):1115-1119.

**Roalf, D.R.,** Quarmley, M., Elliott, M.A., Satterthwaite, T.D., Vandekar., S.N. Ruparel, K., Gennatas, E.D.,

Prabhakaran, K., Jackson, C.T., Verma, R., Hakonarson, H., Gur. R.C., & Gur, R.E. The impact of through quality assurance of diffusion tensor imaging data in a large-scale population-based cohort. Neuroimage. 2016 Jan 15; 125:903:919.

Vandekar, S.N., Shinohara, R.T., Raznahan, A., Hopson, R., **Roalf, D.R.**, Ruparel, K., Gur, R.C., Gur, R.E., & Satterthwaite, T.D. Subject-level measurement of local cortical coupling. Neuroimage 2016 Mar 5; 133:88-97.

Kos, M., Carless, M.A., Peralta, J., Blackburn, A., Almeida, M., **Roalf, D.**, Pogue-Geile, M.F., Prasad, K.,

Gur, R.C., Nimgaonkar, V., Curran, J.E., Duggirala, R., Glahn, D.C., Blangero, J., Gur, R.E., & Almasy, L., Exome sequence data from multigenerational families implicate AMPA receptor trafficking in neurocognitive impairment and schizophrenia risk. Schizophrenia Bulletin 2016 Mar;42(2):288-300.

Satterthwaite, T.D., Wolf, D.W., Calkins, M.E., Vandekar, S.N., Erus, G., Ruparel, K., **Roalf, D.R.**, Elliott, M.A., Moore, T.M., Hakonarson, H., Shinohara, R.T., Davatzikos, C., Gur, R.C., & Gur. R.E. Structural brain abnormalities in youth with psychosis spectrum symptoms. JAMA Psychiatry, 2016 May 1;73(5):515-24.

Shanmugan, S., Wolf, D.H., Calkins, M.E., Moore, T.M., Ruparel, K., Hopson, R.D., Vandekar, S.N., **Roalf,**

**D.R.,** Elliott, M.A., Jackson, C., Gennatas, E.D., Leibenluft, E., Pine, D.S., Shinohara, R.T., Hakonarson, H., Gur, R.C, Gur, R.E., & Satterthwaite, T.D. Common and dissociable mechanisms of executive system dysfunction across psychiatric disorders in youth. American Journal of Psychiatry 2016 May 1;173(5):517-26.

**Roalf, D.R.,** Quarmley, M., Mechanic-Hamilton, D., Wolk, D.A., Arnold, S.E., & Moberg, P.J. Within-

individual variability: An index for subtle change in neurocognition in Mild Cognitive Impairment. Journal of Alzheimer’s Disease, 2016; 54(1):325-35.

Schmitt, J.E., Yi, J., Calkins, M.E., Ruparel, K., **Roalf, D.R.**, Cassidy, A., Souders, M.C., Emanuel, B.S., Gur,

R.E. Disrupted anatomic connectivity in the 22q11.2 deletion syndrome. Neuroimage Clinical, 2016; 12:420-8.

**Roalf, D.R**., Moore, T.M., Wolk, D.A., Arnold, S.A., Mechanic-Hamilton, D., Rick, J., Kabadi, S., Ruparel, K., Chen-Plotkin, A.S., Chahine, L.M., Dahodwala, N.A., Duda, J.E., Weintraub, D.A., & Moberg, P.J. Defining and validating a short form Montreal Cognitive Assessment (s-MoCA) for use in neurodegenerative disease. Journal of Neurology, Neurosurgery & Psychiatry, 2016; 87:1303-1310.

Kaczkurkin, A., Moore, T., Ruparel, K., Calkins, M., Shinohara, R., Elliott, M., Hopson, R., **Roalf D.**, Vandekar, S., Gennatas, E., Wolf, D., Scott, J., Pine, D., Leibenluft, E., Detre, J., Foa, E., Gur, R.E., Gur, R.C., & Satterthwaite, T. Elevated amygdala perfusion mediates developmental sex differences in trait anxiety. Biological Psychiatry, 2016;80(10):775-785.

Calkins, M.E., Moore, T.M., Satterthwaite, T.D., Wolf, D.H., Turetsky, B.I., **Roalf, D.R.**, Merikangas, K.M.,

Ruparel, K., Kohler C.G., Gur, R.C., & Gur R.E. Persistence of psychosis spectrum symptoms in the Philadelphia Neurodevelopmental Cohort. World Psychiatry, 2017 16(1): 62-76.

Quarmley, M., Moberg, P.J., Mechanic-Hamilton, D., Kabadi, S., Arnold, S.E., Wolk, D.A., & **Roalf, D.R**. Odor identification as a supplementary screening instrument improves diagnostic classification of Alzheimer’s disease and mild cognitive impairment. Journal of Alzheimer’s Disease

2017;55(4): 1497-1507.

**Roalf, D.R.,** Moberg, M.J., Turetsky, B.I., Brennan, L., Kabadi, S., Wolk, D.A., Moberg, P.J. A quantitative meta-analysis of olfactory dysfunction in mild cognitive impairment. Journal of Neurology,

Neurosurgery & Psychiatry, 2017; 88:226-232.

**Invited Commentaries**

Perlis, M.L., **Roalf, D.R**., Kloss, J.D.,A commentary on the “Functioning of three attentional networks andvigilance in primary insomnia”. Sleep Medicine. 2015 Dec; 16(12):1567-1568.

**Roalf D.R.** & Moberg P.J. Hearing the signs of age-related cognitive decline: commentary on “Hearing Aid Use is Associated with Better Mini-Mental State Exam Performance”. American Journal of Geriatric Psychiatry. 2016; 24(9):703-705.

**Book/Encyclopedia Chapters**

Janowsky, J.S. & **Roalf, D.R.** (2009). Hormones and Memory. In P. Hof & C. Mobbs

(Eds.), *The Handbook of the Neuroscience of Aging (pp. 619-622).* San Diego, CA: Academic Press.

#### **Lectures/Invited Talks (2004-Present)**

“*Behavioral and Physiological Measures in Global-Local Visual Processing.”* (with S.C.

Johnson) University of Pennsylvania, Department of Psychiatry, Neuropsychiatry, Clinical Neuropsychology Meeting. May 28, 2004.

*“Habituation to Emotional Stimuli: The Effects of Aging.”* Oregon Health &

Science University Student Research Forum. May 11, 2007.

*“Emotional changes in aging: The role of the prefrontal cortex and Amygdala.”*  Winter Conference on the Neurobiology of Learning and Memory. Park City, UT. January 5, 2008. (Invited Symposium presenter)

“*The neural basis of the hemodynamic response*.” OHSU Functional

Neuroimaging Journal Club (FuNC). Portland, OR. August, 13, 2009.

*“Social equity influences economic decisions in healthy older adults”* Oregon Health & Science University Student Research Forum. Portland, OR. May 13, 2010.

“*It’s not fair! Behavioral and neural evidence that equity influences social economic decisions in healthy older adults*” Dissertation Public Seminar. Portland, OR. June 23,

2010.

*“Age-related changes in social-decision making*.” Neuropsychiatry Brown Bag Seminar.

University of Pennsylvania. December 10, 2010.

*“Activation and connectivity in the family: A neuroimaging study of multiplex multigenerational*

*families with schizophrenia.”* DFTG International Research Training Group Winter

School 2011, Philadelphia, PA. October 13, 2011.

*“Macromolecular NMR Spectroscopy: a primer and preliminary data.”* Center for Neuroimaging in Psychiatry. Philadelphia, PA October, 18, 2012.

*“Neural underpinnings of social economic decision-making in older adults.” The 66th Annual Scientific Meeting of the Gerontological Society of America. November 21, 2012 (Invited Talk).*

*“MGI: An investigation of multiplex multigenerational families with schizophrenia.”* University of

Pennsylvania Schizophrenia Research Center. Philadelphia, PA. December, 7 2012.

*“All in the Family: A neurocognitive and neuroimaging investigation of multiplex multigenerational*

*families with schizophrenia*.” Vanderbilt University Psychiatry Grand Rounds, Nashville, TN. February, 21, 2013. (Invited Talk).

*“All in the Family: A neurocognitive and neuroimaging investigation of multiplex multigenerational*

*families with schizophrenia*.” Olin Neuropsychiatric Center Seminar, Hartford, CT, May 7, 2013. (Invited Talk).

*“Neurocognitive Variability in Health and Disease”.* Neuropsychiatry & Neuroscience Seminar

University of Pennsylvania. March 21, 2014

*“Peaks and valleys: A neurobiological perspective on cognitive performance variability in psychosis”.* University of Pennsylvania Neuropsychiatry & Neuroimaging Seminar, Philadelphia, PA. September 18, 2014 (Invited Talk).

*“Within-individual Variability of Cognitive Performance in Health and Disease.”* Veteran’s Affairs Clinical Psychology Seminar. Philadelphia Veteran’s Affairs Medical Center. January 16 , 2014. (Invited Talk)

*“Peaks and valleys: A neurobiological perspective on cognitive performance variability in health and disease.”* Philadelphia Neuropsychology Society, Philadelphia, PA. January, 28 2015 (Invited Talk).

*“Using GluCEST to investigate developmental neuropathology in youth at risk for psychosis*.” PENN- CEST Symposium, Philadelphia, PA, October 27, 2015*.*

*“The impact of quality assurance on diffusion tensor imaging.”* University of Pennsylvania Neuropsychiatry Brain Imaging Seminar. Philadelphia PA. February 11, 2016*.*

*“Defining and Validating a Short Form Montreal Cognitive Assessment (s-MoCA) for use in Neurodegenerative Disease.”* 68th Annual Meeting of the American Academy of Neurology. Vancouver, BC Canada. April 16, 2016. (Platform Presentation).

*“The Philadelphia Neurodevelopmental Cohort: Using Neuroimaging to Improve Our Perspective on*

*Brain Development and Psychopathology”.* Department of Radiology Summer Series at the University of Washington, Seattle, WA. August 16, 2016*.*

*“Using Diffusion Tensor Imaging to Monitor White Matter Disruption in Youth At Clinical High Risk for Psychosis”.* University of Pennsylvania, Department of Psychiatry, Neuropsychiatry Seminar. November 18, 2016.

*“Microstructural White Matter Abnormalities in Youth with Psychosis Spectrum Symptoms: A*

*longitudinal perspective*”. American College of Neuropsychopharamcology. Hollywood, FL. December 5, 2016*.*

*“Glutamate Imaging (GluCEST) Reveals Lower Brain GluCEST Contrast in Patients on the Psychosis*

*Spectrum”*. International Congress on Schizophrenia. San Diego, CA. March 26, 2017.

*“The Philadelphia Neurodevelopmental Cohort: Using Neuroimaging to Improve Our Perspective on*

*Brain Development and Psychopathology*”. University of Southern California LONI Center Seminar Series. Los Angeles, CA. March 28, 2017. (Invited Lecture)

*“Using Diffusion Tensor Imaging to Monitor White Matter Disruption in Youth At Clinical High Risk for Psychosis”.* Azuza Pacific University Research Seminar Series. Azuza, CA. March 30, 2017.

*“Scents and ‘non-scents’: How the sense of smell may help in the detection of early Alzheimer’s*

*disease”.* Azuza Pacific Brain Awareness Keynote Address, Azuza, CA. March 30, 2017.

*“Glutamate Imaging (GluCEST) Reveals Lower Brain GluCEST Contrast in Patients on the Psychosis*

*Spectrum”*. Children’s Hospital of Philadelphia: CHOP Talk Seminar. Philadelphia, PA. April 4, 2017.

## **Abstracts / Poster Presentations: (2002-Present)**

Turetsky, B.I, Moberg, P.J., **Roalf, D.R.**, Doty, R.L., & Gur, R.E. (2002). Structural and Functional

Abnormalities of the Olfactory System in Patients with Schizophrenia. American College of Neuropsychopharmacology 41st Annual Meeting. December 8-12, San Juan, Puerto Rico.

Moberg, P.J., Balderston, K., **Roalf, D.R.**, Turetsky, B.I. Doty, R.L., Duda, J.E., & Stern, M.B. Meta analysis

of olfactory dysfunction in Alzheimer’s, Parkinson’s and Huntington’s diseases. 31st International Neuropsychological Society. 2003; 9(2), 166.

Moberg, P.J., Turetsky, B.I, Johnson, S., **Roalf, D.R.**, Balderston, K., Arnold, S.E., Doty,

R.L., & Gur R.E. (2003). Unirhinal Olfactory Performance in Schizophrenia: Laterality and Relationship to Clinical Measures. International Congress on Schizophrenia Research Biennial Meeting. March, Colorado Springs, CO.

Turetsky, B.I., Owzar, K.O., **Roalf, D.R.**, Gur, R.E. Doty, R.L., & Moberg, P.J. (2003). Physiological

Responses to Pleasant and Unpleasant Odors in Patients with Schizophrenia. American College of Neuropsychopharmacology 42nd Annual Meeting. December 7-11, San Juan, Puerto Rico.

**Roalf, D.R.**, Turetsky, B.I., Doty, R.I., Gur, R.E., & Moberg, P.J. (2004). Unirhinal impairment of odor

hedonics in men with schizophrenia. 32nd Annual International Neuropsychological Society Meeting. February 2004; Baltimore, MD.

Dennison, A., Robinson, K. **Roalf, D.R.**, Moberg, P. Falling risk factors in Parkinson’s disease. American

Journal of Physical Medicine & Rehabilitation. 2004; 83 (3), 229.

**Roalf, D.R.**, Turetsky, B.I. Balderston, C.C., Gur, R.E., & Moberg, P.J. Diminished

posterior nasal volumes in male patients with schizophrenia. Association for Chemoreception Sciences, 26th Annual Meeting. April 24, 2004.

Balderston, C.C., Turetsky, B.I., **Roalf, D.R.**, Gur, R.E., & Moberg, P.J. Unilateral olfactory deficits in

patients with schizophrenia: relationship to clinical symptomatology. Biological Psychiatry. 2004; 55 (supplement), 26S.

**Roalf, D.R.**, Turetsky, B.I. Balderston, C.C., Gur, R.E., & Moberg, P.J. Reduced Phenylthiocarbamide

(PTC) perception in patients with schizophrenia and first-degree family members. Biological Psychiatry. 2004; 55 (supplement), 78S.

Owzar, K., Moberg, P.J., **Roalf, D.R.**, Gur, R.E. & Turetsky, B.I. Physiologic responses to pleasant and

unpleasant odors in patients with schizophrenia. Biological Psychiatry. 2004; 55 (supplement), 128S.

Mishkin, A.D., Moberg, P.J., **Roalf, D.R.**, & Turetsky, B.I. Anterior ventromedial temporal lobe volume

decrements in family members of patients with schizophrenia. Biological Psychiatry. 2004; 55 (supplement), 126S.

Turetsky, B.I., Owzar, K., **Roalf, D.R.** & Moberg, P.J. Olfactory receptor neurondysfunction in

schizophrenia. Biological Psychiatry. 2004; 55 (supplement), 200S.

Moberg, P.J., **Roalf, D.R.**, Gur, R.E., & Turetsky, B.I. Reduced nasal volumes as stigmata of aberrant

neurodevelopment in schizophrenia. Biological Psychiatry. 2004; 55 (supplement), 225S.

**Roalf, D.R.**, Moberg, P.J. Aggarwal, N., Weintraub, D. Duda, J.E., & Stern, M.B. Relationships between

clinical UPDRS ratings and light-diode finger and foot tapping. University of Pennsylvania Institute on Aging, Annual Retreat on Aging. May 25, 2004, Philadelphia, PA.

Moberg, P.J., Arnold, Steven, E., **Roalf, D.R.**, Balderston, C.C, Abbazia, J., Kohler, C.G., Gur, R.E., &

Turetksy, B.I. Apolipoprotein E Genotype and Odor Identification in Schizophrenia. International Neuropsychological Society, Thirty-Third Annual Meeting. February 3, 2005, St. Louis, MO.

**Roalf, D.R.**, Turetsky, B.I., Balderston, C.C, Doty, R.L, Gur, R.E & Moberg, P.J. Family Ties: Odor

Identification Impairments in Patients with Schizophrenia, & First-Degree Family Members. International Neuropsychological Society, Thirty-Third Annual Meeting. February 3, 2005; St. Louis, MO.

Moberg, P.J., Kohler, C.G., Barrett, F.S. BA, **Roalf, D.R.**, Brensinger, C., Gur, R.E., Turetsky, B.I. Odor

Identification and Facial Emotion Recognition in Patients with Schizophrenia. International Congress on Schizophrenia. April 4, 2005.

Turetsky, B.I, Owzar, K. **Roalf, D.R.**, Gur, R.E., Moberg, P.J. Olfactory Dysfunction in Schizophrenia

Begins at the Nose. International Congress on Schizophrenia Research. April 4, 2005.

Neff, J.K., Owzar, K., **Roalf, D.R.**, Ashwini, S., Sperling, M., Korczykowski, M, Baltuch, G., French, J.A.,

Mirza, N., Moberg, P.J., Turetsky, B.I., Kratskin, I., & Doty, R.L. The Influence of Pharmaco-Resistant Temporal Lobe Epilepsy Resection on Olfaction. Association for Chemoreception Sciences, 27th Annual Meeting. April 2005.

Turetsky, B.I, Owzar, K., **Roalf, D.R.**, Johnson, S.C., & Moberg, P.J. Olfactory Sensory Impairments in

Schizophrenia. Society for Research in Psychopathology Annual Meeting. October 28, 2005; Miami, FL.

Kanes, S.J., Turetsky, B.I., **Roalf, D.R.**, Levy, M.E., Xu, L., Balderston, C.C., Siegel, S.J., Moberg, P.J. Non-

taster PTC Haplotype is Associated with Schizophrenia. Society for Neuroscience 2005 Annual Meeting. November 14, 2005; Washington, D.C.

Rick, J.H., Balderston, C.C., Duda, J.E., **Roalf, D.R.** Weintraub, D. Kleiner-Fisman, G., Doty, R.L., Stern,

M.B. & Moberg, P.J. Longitudinal progression of odor identification deficits in Parkinson’s Disease. University of Pennsylvania Biomedical Post-Doctoral Research Symposium. October 21, 2005; Philadelphia, PA.

Rao, H, Dinges, D.F. Censits, D. DuRousseau, D., **Roalf, D.R.**, Wang, Z., Aguirre G.K., Detre, J.A., & Wang,

J. Simultaneous EEG and ASL perfusion fMRI during resting and mental calculation: a preliminary study. International Society for Magnetic Resonance in Medicine. May 9, 2006; Seattle, WA

Duda, J. E., Moberg, P. J., Balderston, C., Roalf, D. R., Doty, R. L., & Stern, M. B. P1-006 Meta-analysis of

olfactory dysfunction in Alzheimer's, Parkinson's and Huntington's diseases. *Neurobiology of Aging*, *25*, S95-S95.

Krause, M.A., **Roalf, D.R.** & Janowsky, J.S. Metamemory and functional neuroimaging of episodic

memory encoding in older men. Association for Psychological Science-19th Annual Meeting. May 19, 2007; Washington D.C.

Pruis, T., **Roalf, D.R.**& Janowsky, J.S. Estrogen modifies emotion induced brain activity in older women.

Society for Neuroscience Annual Meeting. November 7, 2007; San Diego, CA.

**Roalf, D.R.**, Pruis, T. & Janowsky, J.S. Habituation to emotional stimuli: the effects of aging. Society for

Neuroscience Annual Meeting. November 7, 2007; San Diego, CA.

**Roalf, D.R.** Young, L.A, Leonard, K.A., Krause, M.A. & Janowsky J.S. Diffusion Tensor Imaging of Normal

Appearing White Matter in Prostate Cancer: Preliminary Evaluation of the Effects of Androgen Deprivation Therapy. OHSU Student Research Forum. May 9, 2008; Portland, OR

**Roalf, D.R.**, Berlow, Y.A., Lebow, M.R., Young, L.A., Salat, D.H., & Janowksy, J.S. The effect of androgen deprivation on prefrontal white matter. 15th Annual Meeting of the Organization for Human Brain Mapping. June 19, 2009; San Francisco.

**Roalf, D.R.**, Lebow, M.R., Mitchell, S.H., Harbaugh, W.T. & Janowsky, J.S. Social Decision-Making in the

Elderly. 2009 Annual Meeting of the Society for Neuroeconomics. September 25, 2009. Evanston, IL.

**Roalf, D.R.,** Lebow, M.R., Mitchell, S.H. & Janowsky, J.S. Differences in economic and social decision-

making between young and elderly adults. Society for Neuroscience Annual Meeting. October 18, 2009. Chicago, IL.

Young L.A., Lebow, M.R, **Roalf, D.R.**, Beer, T.M., & Janowsky, J.S. Prefrontal activity does not reflect

androgen deprivation induced memory impairment. Society for Neuroscience Annual Meeting. October 20, 2009. Chicago, IL.

**Roalf, D.R.** Mitchell, S.H. & Janowsky, J.S. Behavioral and neural evidence that equity guides

social economic decision-making in older adults. Society for Neuroscience Annual Meeting November 17, 2010. San Diego, CA.

Moberg, P.J., Hit Lar Seng, N.S., Manning, K.J., Walker, J.B., **Roalf, D.R**., Rick, J., Arnold, S.E. &

Doty, R.L. Olfactory dysfunction in neurodegenerative diseases: a meta analytic investigation of Alzheimer’s, Parkinson’s and Huntington’s disease. International Neurospychological Society Annual Meeting. February 3, 2011. Boston, MA.

**Roalf D.R**, Gur, R.C., Richard, J., Gallagher, R.S., Griffin, M.D., Ruparel, K., Prasad, K., Wood, J., Almasy,

L., Pogue-Geile, M., Nimgaonkar, V. L., Gur, R.E. Stability of neurocognitive performance in patients with schizophrenia and their relatives on a cognitive neuroscience-based computerized battery. University of Pennsylvania Biomedical Postdoctoral Symposium, October 12, 2011.

**Roalf D.R**., Loughead, J.L., Gur, R.C., Richard, J., Gallagher, R.S., Griffin, M.D., Ruparel, K.,

Prasad, K., Wood, J., Almasy, L., Pogue-Geile, M., Nimgaonkar, V. L., Gur, R.E. Preliminary evidence of a neurobehavioral index of cognitive performance in schizophrenia. Society for Neuroscience Annual Meeting. November 2011, Washington, D.C..

\*Prakash Reddy Nanga, R., **\*Roalf, D.R.,** \*Cai, K., Elliott, M. Hariharan, H., Loughead, J.L., Paptani, H., Reddy, R., & Gur, R.C. (\*equal contribution). Magnetic resonance spectroscopy (MRS) of the deep brain structures at 7.0T. International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, May, 2012, Melbourne, Australia. \*Equal contribution

McKeever, J., Kamath, V., **Roalf, D.R**., Turetsky, B.I., Gur, R.E., Gur, R.C., & Moberg, P.J. Influence of cognitive factors on olfactory processing in schizophrenia. Society for Biological Psychiatry 67th Annual Meeting. May, 3 2012, Philadelphia, PA.

Podell, J.E., **Roalf, D.R**., Gur, R.C., Ruparel, K., Gallagher, R.S., Prasad, K., Wood, J., Pogue-Geile, M.F., Almasy, L., Nimgaonkar, V.L., & Gur, R.E. A volumetric neuroimaging study of subcortical brain structures in multiplex, multigenerational schizophrenia families. Society for Biological Psychiatry 67th Annual Meeting. May, 5 2012, Philadelphia, PA.

**Roalf, D.R**., Kamath, V., Ruparel, K., Loughead, J., Elliott, M., Calkins, M.E., Gur, R.E., Moberg, P.J., & Turetsky, B.I. Disrupted olfactory bulb microstructure in schizophrenia and individuals at-risk for psychosis. Society for Biological Psychiatry 67th Annual Meeting. May, 5 2012, Philadelphia, PA.

**Roalf, D.R**., Ruparel, K., Gur, R.E., Bilker, W.B., Gallagher, R.S., Elliott, M.A. Prasad, K., Wood, J.,

Pogue-Geile, M., Almasy, L., Nimgaonkar, V. L., Gur, R.C. Neuroimaing predictors of

cognitive performance across a standardized neurocognitive battery. Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA. April 14, 2013.

Turetsky, B.I., **Roalf, D.R**., Kamath, V., Ruparel, K., Elliott, A., Calkins, M.E., Gur, R.E., &Moberg, P.J.

Olfactory imaging markers of heightened neurodevelopmental risk for schizophrenia. 14th Annual International Congress on Schizophrenia Research. Orlando, FL. April 22, 2013.

**Roalf D.R**., Vandekar, S., Gur, R.C., Ruparel, K., Satterthwaite, T.D., Elliott, M.A., Gallagher, R.S.,

Prasad, K., Wood, J., Pogue-Geile, M., Almasy, L., Nimgaonkar, V. L., Gur, R.E. Volumetric and shape abnormalities of subcortex in multiplex, multigenerational families with schizophrenia. Human Brain Mapping, Seattle, WA. June 2013.

Satterthwaite, T.D., Wolf, D.H., Ruparel, K. Erus, G., Elliott, M.A., Gennatas, S., Hopson, R., Jackson, C., Parbakaran, K., **Roalf, D.R**., Smith, A., Calkins, M.E., Bilker, W.B., Loughead, J.L., Verma, R., Hakonarson, H., Davatzikos, C., Gur, R.C., Gur, R.E. Functional maturation of the executive system in adolescence. Human Brain Mapping, Seattle, WA. June 2013.

Ruparel, K., **Roalf, D.R**., Bilker, W.B., Hopson, R., Vandekar, S., Satterthwaite, T.D., Gur, R.E., Gur, R.C., Predicting behavior from fMRI measures using regularized regression. Human Brain Mapping, Seattle, WA. June 2013.

Kos, M.Z., Peralta, J., Carless, M.A., Almeida, M., Gur, R.C., Pogue-Geile, M.F., **Roalf, D**., Nimgaonkar, V., Gur, R.E., Almasy, L. Exome sequence of multiplex, multigenerational families reveal schizophrenia risk loci involved in fatty acid oxidation. American Society of Human Genetics. Boston, MA, October 2013.

Verma, G., **Roalf, D.R**., Gur, R.C., Gur, R.E., Poptani, H. 2D L-COSY at 7T detects glutamate, gluatmin, glutathione and GABA in patients with schizophrenia. ISMRM Annual Meeting. Milan, Italy May 2014.

Roalf, D.R., Gur, R.C., Vandekar, S., Ruparel, K., Satterthwaite, T.D., Elliott, M.A, Gallagher, R.S., Wood,

J., Prasad, K., Pogue-Geile, M., Almasy, L., Nimgaonkar, V., Gur, R.E. Analysis of heritability for multimodal brain imaging in relation to cognitive performance. Society for Biological Psychiatry 68th Annual Meeting. New York City, NY. May, 10 2014.

Bilker, W.B., Brensinger, C.M., **Roalf, D.R.**, Ruparel, K., & Gur, R.C. An extension of the CORANOVA

method for correlated correlations. International Biometric Society 27th Annual Conference. Florence, Italy. July 2014.

**Roalf, D.R.,** Elliott, M.A., Quarmley, M., Vandekar, S.N., Satterthwaite, T.D., Ruparel, K., Prabhakaran, K., Jackson, C.T., Verma, R., Hakonarson, H., Gur, R.C., & Gur, R.E. Improved quality assurance Neuroscience Annual Meeting. Washington D.C., November, 2014.

**Roalf, D.R**., Quarmley, M., Ruparel, K., Moberg, P.J., & Turetsky, B.I. Neurobiological markers within the olfactory system are associated with heightened clinical risk for schizophrenia. 53rd Annual Meeting of the American College of Neuropsychopharamcology. Phoenix, AZ. December 2014.

Gur, R.E., Yi, J., Schmidt, J.E., **Roalf, D.R**., McDonald-Mcginn, D., Zackai, E., Calkins, M.E., Ruparel, K., Cassidy, A., Port, A., Sounders, M., Gur, R.C. & Emanuel, B. Aberrant brain development and psychosis in 22q11.2 Deletion Syndrome. 15th International Congress on Schizophrenia Research. Colorado Springs, CO, March 2015.

**Roalf, D.R**. Multimodal brain imaging in relation to cognitive performance in a multiplex multigenerational family study of schizophrenia. 15th International Congress on Schizophrenia Research. Colorado Springs, CO, March 2015. (Poster Symposium).

Quarmley, M., Kabadi, S.L., Mechanic-Hamilton, D., Savitt, A.P., Karlawish, J.H., Wolk, D.A., Weintraub, D., Moberg, P.J., Arnold, S.E., **Roalf, D.R**. (May 2015). A Wrinkle in Reaction Time: Cognitive Variability in Neurological Disorders. 2015 Sylvan M. Cohen Annual Retreat on Aging, Philadelphia, PA

Satterthwaite, T.D., Shanmugan, S., Wolf, D.H., Calkins, M.E., Moore, T.M., Hopson, R., Ruparel, K., **Roalf, D.R**., Jackson, C., Gennatas, E.D., Leibenluft, E., Pine, D.S., Gur, R.C., & Gur, R.E. Common and dissociable mechanisms of executive system dysfunction across psychiatric disorders in youth. Society for Biological Psychiatry 70th Annual Meeting. May, 16 2015, Toronto, Canada.

Gur, R.E., Yi, J, Schmitt, J.E., **Roalf, D.R**., McDonald-McGinn, D., Calkins, M.E., Zackai, E., Ruparel, K., Cassidy, A., Port A., Sounder, M., Gur, R.C., & Emanuel, B. Patterns of brain dysfunction in psychosis risk youth with and without 22qDS. Society for Biological Psychiatry 70th Annual Meeting. May, 15 2015, Toronto, Canada.

Prakash Reddy Nanga, R., **Roalf, D.R**., Hariharan, H., Elliott, M.A., Prabhakaran, K., Quarmley, M., Moberg, P.J., Reddy, R., & Turetsky, B.I. GluCEST in the olfactory cortex as a marker of heightened clinical risk for schizophrenia. ISMRM Annual Meeting. June, 2 2015. Toronto, Ontario, Canada.

Vandekar, S., Shinohara, T., Raznahan, A., **Roalf, D**., Ross, M., Deleo, N., Ruparel, K., Verma, R., Wolf, D., Gur, R., Gur, R., & Satterthwaite, T. Topologically dissociable patterns of development of the human cerebral cortex. Human Brain Mapping Annual Meeting. June 15, 2015. Honolulu, HI.

Vandekar, S., Shinohara, R., **Roalf, D**., Raznahan, A., Ruparel, K., Wolf, D., Gur, R., Gur, R., & Satterthwaite, T. Localized topological coupling evolves during adolescent development. Human Brain Mapping Annual Meeting. June 15, 2015. Honolulu, HI.

Kelly, S., Jahanshad, N., Agartz, I, Andreassen, O., Fatouros-Bergman, H., Brouwer, R., Cahn, W., Calhoun, V., Cannon, D., Gabriel Castrillon, J., Chiapponi, C., Corvin, A., Trung Doan, N., Ehrlich, S., Cresp-Facorro, B., Flyckt, L., Fukunaga, M., Glahn, D., Gollub, R., Gur, R., Tordesillas- Gutierrez, D., Hashimoto, R., Hatton, S., Hibar, D., Hickie, I., Horacek, H., Lopez Jaramillo, C., Jonsson, E., Kahn, R., Kubicki, M., Knochel, Ch., Oertel-Knochel, V., Kikinis, Z., Lange, C., Lagopoulos, J., Lyall, A., Magnotta, V., Mandl, R., McDonald, C., Melicher, T., Newell, D., Pasternak, O., Piras, F., Pearlson, G., Pol, H.H., **Roalf, D**., Roiz-Santianez, R., De Rossi, P., Rotenberg, D., Satterthwaite, T., Spalletta, G., Spaniel, Fl., Stablein, M., Tonnessen, S., Vanegas, A., Vargas, C., Voineskos, A., Westyle, L., White, T., Zhao, J., Thompson, P., Turner, J., & Donohoe, G. White matter differences in schizophrenia: Meta-analytic findings from ENIGMA- Schizophrenia DTI. Human Brain Mapping Annual Meeting. June 15, 2015. Honolulu, HI.

Rupert, P. **Roalf, D.R**., Quarmley, M., Hariharan, H., Prakash Reddy, P., Elliott, M.A., Reddy, R., Moberg, P.J., Gur, R.E., & Turetsky, B.I. Cortical GluCEST in Schizophrenia and Youth at Clinical High Risk for Psychosis. Inaugural PENN-CEST Symposium. October, 2015. Philadelphia, PA.

Quarmley, M., Roalf, D.R., Kabadi, S.L., Wolk, D.A., Arnold, S.E., Mechanic-Hamilton, D., & Moberg, P.J. On the scent: using olfaction clues to screen for dementia. University of Pennsylvania Institute for Aging Symposium. October, 2015. Philadelphia, PA.

**Roalf, D.R.,** Quarmley, M., Reddy Nanga, R.P., Rupert, P., Hariharan, H., Ruparel, K., Blake, J., Elliott, M.A., Reddy, R., & Turetsky, B.I. In vivo mapping of cortical glutamate in early youth. Society for Neuroscience Annual Meeting. October 2015, Chicago, IL.

**Roalf, D.**R., Rupert, P., Quarmley, M., Hariharan, H., Prakash Reddy, P., Elliott, M.A., Reddy, R., Moberg, P.J., Gur, R.E., & Turetsky, B.I. In vivo mapping of cortical glutamate in youth at clinical high risk for psychosis: a Glutamate Chemical Exchange Saturation Transfer study. 54th Annual Meeting of the American College of Neuropsychopharamcology. December, 2015. Hollywood, FL.

Basner, M., Dinges, D.F., Nasrini, McGuire, S., Hermosillo, E., Ecker, A.J., Johannes, B. , Gerlach, D.A., Stahn, A., Gunga, H.C., Mollicone, D.J., Mott, C.G., Melzer, T., Taylor, B., Whitton, L., **Roalf, D**., Elliott, M., Parbhakaran, K., Bilker, W., & Gur, R.C. Neurostructural, cognitive and physiologic changes during a 1-year Antarctic winter-over mission. 2016 N.A.S.A. Human Research Program Investigators Workshop. February 2016. Houston, TX.

Tang, E., Giusti, C., Baum, G., Gu, S., Kahn, A., **Roalf, D**., Gur, R.C., Gur, R.E., Satterthwaite, T., Bassett, D. White matter connectivity: controllability and dynamics. Control and Obseravability of Network Dynamics. April 2016. Columbus, OH.

**Roalf, D.R.**, Reddy Nanga, R.P., Rupert, P., Hariharan, H., Quarmley, M., Calkins, M.E., Dress, E., Prabhakaran, K., Elliott, M.A., Moberg, P.J., Gur, R.C., Gur, R.E., Reddy, R., & Turetsky, B.I. In vivo mapping of cortical glutamate in youth at clinical high risk for psychosis: a Glutamate Chemical Exchange Saturation Transfer study. University of Pennsylvania, Department of Medicine Celebration of Research. May 3, 2016.

Prabhakaran, K., Elliott, M.A., **Roalf, D**., Ruparel, K., Vandekar, S., Hopson, R., Gennatas, E.D., Gur, R.E, & Gur, R.C. Iron deposition in the globus pallidus of healthy youth. 24th ISMRM Annual Meeting. May 12, 2016.

Nanga, R., **Roalf, D.R**., Rupert, P., Quarmley, M., Hariharan, H., Elliott, M.A., Gur, R.E., Moberg, P.J., Reddy, R., & Turetsky, B.I. Cortical GluCEST in Schizophrenia and Youth at Clinical High Risk for Psychosis. 24th ISMRM Annual Meeting. May 11, 2016.

Baum, G., **Roalf, D.**, Kahn, A., Medaglia, J., Ciric, R., Ruparel, K., Gur, R.C., Gur, R.E., Bassett, D.,

Satterthwaite, T.S. Confounds in charting the development of the structural connectome. Human Brain Mapping Annual Meeting. June 2016. Geneva, Switzerland.

Kaczkurkin, A., Moore, T., Ruparel, K., Calkins, M., Shinohara, R., Elliott, M., Hopson, R., **Roalf D**.,

Vandekar, S., Gennatas, E., Wolf, D., Scott, J., Pine, D., Leibenluft, E., Detre, J., Foa, E., Gur, R.E., Gur, R.C., & Satterthwaite, T. Elevated amygdala perfusion mediates developmental sex differences in trait anxiety. Human Brain Mapping Annual Meeting. June 2016. Geneva, Switzerland.

Kelly, S., Jahanshad, N., Hilbar, D.P., Agartz, I., Allozo, C., Andreassen, O., Arango, C., Bouix, S.,

Bousman, C., Brouwer, R., Bruggerman, J., Calhoun, V., Cannon, D., Carr, V., Castrillon, G.,

Catts, S., Chiapponi, C., Cresp-Facorro, B., Cropley, V.L., De Rossi, P., Dickie, E., Doan, N.T.,

Ehrlich, S., Fatouros-Bergman, H., Flyckt, L., Fouche, J.P., Fukunaga, M., Glahn, D., Gollub, R.,

Gur, R., Hashimoto, R., Hatton, S., Henskens, F., Hickie, I., Horacek, J., Howells, F., Pol, H.H.,

Seidman, L.J., Jablensky, A., Jansen, P., Janssen, J.,Jonsson, E., Kikinis, Z., Kirra, L., Klauser, P.,

Knochel, C., Kochunov, P., Kubicki, M., Kwon, J.S., Lagopoulos, J., Langen, C., Lawrie, S., Lenroot,

R., Lopezjaramillo, C., Lyall, A., Magnotta, V., Mandi, R., McCarley, R.W., McCarthy-Jones, S.,

McDonald, C., Melicher, T., Mesholam-Gately, R.I., Michie, P., Mowry, B., Newell, D.,

Oertel\_Knochel, V., Oestreich, L., Pantelis, C., Pasternak, O., Pearlson, G., Perreira, A., Piras, F.,

**Roalf, D**., Roiz, R., Rotenburg, D., Satterthwaite, T., Savadjiev, P., Schall, U., Scott, R., Seal, M.,

Shannon-Weickert, C., Shenton, M.E., Spalletta, G., Spaniel, F., Stablein, M., Stein, D., Sundrum,

S., Tordeisillas, D., van Haren, N., Vanegas, A., Vargas, C.D., Velakoulis, D., Voineskos, A.,

Weickert, T., Westyle, L., White, T., Whitford, T., Wojcik, J., Yun, J.Y., Zalesky, A., Zhao, J., van

Erp, T., Turner, J., Thompson, P.M., Donohoe, G. White matter microstructural differences in

1,398 schizophrenia patients and 1,633 healthy controls from 14 countries: meta-analytic

findings from the ENIGMA Schizophrenia DTI working group. OHBM meeting. June 2016.

Geneva, Switzerland.

Garcia de la Garza, A., **Roalf, D.R**., Ruparel, K., Satterthwaite, T.D., Bilker, W.B., Gur, R.C., & Gur, R.E. A

quantitative comparison of linear and non-linear models to detect white matter differences

in psychosis spectrum. Thomas R. Ten Have Symposium on Statistics in Mental Health. June

2nd, 2016. Philadelphia, PA.

Baum, G.L., Ciric, R., **Roalf, D.R**., Moore, T.M., Kahn, A., Betzel, R., Quarmley, M., Cook, P., Ruparel, K., Gur, R.C., Gur, R.E., Bassett, D.S., & Satterthwaite, T.D. Modular evolution of structural brain networks in adolescence supports executive function. Society for Neuroscience Annual Meeting 2016. San Diego, CA.

Tang, E., Giusti, C., Baum, G., Gu, S., **Roalf, D**., Gur, R.C., Gur, R.E., Satterthwaite, T.D., & Bassett, D. White matter connectivity supports increasing diversity of neural dynamics across normative neurodevelopment. Society for Neuroscience Annual Meeting 2016. San Diego, CA.

**Roalf, D.R**., Moore, T.M., Wolk, D.A., Arnold, S.A., Mechanic-Hamilton, D., Rick, J., Kabadi, S., Ruparel, K., Chen-Plotkin, A.S., Chahine, L.M., Dahodwala, N.A., Duda, J.E., Weintraub, D.A., & Moberg, P.J. Defining and validating a short form Montreal Cognitive Assessment (s-MoCA) for use in neurodegenerative disease. The Annual Marian S. Ware Research Retreat presented by the Center for Neurodegenerative Disease Research. University of Pennsylvania, Philadelphia PA.

Rupert, P., **Roalf, D.R**., Brennan, L., Robinson, K., Duda, J., Weintraub, D.A., Trojanowsky, J.Q., Wolk, D.A., & Moberg, P.J. Finger tapping patterns in Alzheimer’s disease, Parkinson’s disease and mild cognitive impairment. The Annual Marian S. Ware Research Retreat presented by the Center for Neurodegenerative Disease Research. University of Pennsylvania, Philadelphia PA.

Vandekar, S.N., Rosen, A., Ciric, R., Satterthwaite, T.D., **Roalf, D.R**., Ruparel, K., Gur, R.C., Gur, R.E., & Shinohara, R. T. Fast and Robust Family-wise Error Controls for Neuroimaging. Eastern North American Region of the International Biometric Society. Austin, TX.

# Prasad KM, Khan A, Bender R, Gertler J, Tollefson S, Wood JA, **Roalf D**, Gur RC, Gur RE, Almasy L,

# Pogue-Geile MF, Nimgaonkar VL. Widespread heritable brain circuitry associated with critical cognitive domains among non-psychotic relatives in multiplex schizophrenia families. American College of Neuropsychopharamcology. December, 2016. Hollywood, FL.

**Roalf D.R**, de la Garza, A.G., Calkins M.E., Moore T.M., Quarmley M., Ruparel K., Rupert, P., Elliott, M.A,

Satterthwaite, T.D., Gur, R.C. & Gur, R.E. Microstructural White Matter Abnormalities in Youth with Psychosis Spectrum Symptoms: A longitudinal perspective. American College of Neuropsychopharamcology. December, 2016. Hollywood, FL.

*Reddy Nanga, R.P., Roalf, D., D’Aquilla, K., DeBrosse, C., Bagga, P., Wilson, N., Kumar, D., Borthakur, A., Elliott, M., Reddy, D., Hariharan, H., Epperson, N., & Reddy, R. Reproducbility and age dependence of GluCEST contrast in healthy adults. ISMRM 2017.*

*Scott, J.C., Jones, J.D., Moore, T.M.,* ***Roalf, D.R****., Calkins, M.E., Wolf, D.H., Satterthwaite, T.D., Ruparel,*

*K. Jackson, C.T., Gur, R.E., Gur, R.C. Cannabis Use and Neurocognitive Functioning in the Psychosis Spectrum. To be presented at the Society of Biological Psychiatry Annual Meeting, May 2017.*

**Ongoing Research Support**

**K01 NIH/MH102609**

Roalf (PI) 07/01/2014-06/30/2018

Neurocognitive Variability in Schizophrenia and Youth At-Risk for Psychosis.

*Role: Principal Investigator*

Direct Costs: $157,000 annual

1R21MH106799-01A1

Bassettt & Satterthwaite (PIs)                            04/01/16–3/31/18

Evolution of the Linked Architecture of Network Control and Executive Function in Adolescence This proposal investigates how executive function develops in adolescence using

novel methods from network control theory.

Role: *Investigator*.

Direct Costs: $150,000 annual

NARSAD Young Investigator Award

Roalf (PI) 01/01/2017-12/31/2018

The role of glutathione on glutamate hypofunction in psychosis and youth at risk for psychosis

*Role: Principal Investigator*

Direct costs: $35,000 annual

Pending Research Support

NIMH R01

Intermodal Coupling Imaging Analytics

*Role: Co-Investigator*

Direct Costs: $450,000

NIA R01

Probing Ab and tau in the olfactory system to monitor and predict Alzheimer's disease.

*Role: Principal Investigator*

Direct Costs: $405,000

**NIMH R01**

Sleep Loss and Time of Day Effects on Frontal EEG Activity and Executive Function

*Role: Co-Investigator*

Direct Costs: $175,000 annual

NIMH R01

Longitudinal Mapping of Network Development Underlying Working Memory Dysfunction Across Psychiatric Illnesses in Adolescence

Role: Co-Investigator

Direct Costs: 490,000 annual

Completed Research Support

**University of Pennsylvania Institute for Aging and Alzheimer’s Disease Core Center Pilot Grant**

Roalf (PI) 07/01/2014-06/30/2015

Within-individual Variability as a Biomarker of Incipient Dementia in Mild Cognitive Impairment

*Role: Principal Investigator*

**R01 NIH/MH099156-01**

Turetsky (PI) 12/01/2012-11/30/2016

Olfactory Neuroimaging Markers of Heightened Developmental Risk for Schizophrenia

This study will apply multiple neuroimaging methods to examine measures of the neuronal

integrity of the olfactory system in youths who are at risk for developing schizophrenia, in order

to determine whether these measures can serve as neurobiological markers in predicting

schizophrenia risk status. The objective is highly significant - reliable identification of youths

who are at risk for developing schizophrenia can promote early intervention and reduce both

the public health costs and disability associated with this illness.

*Role: Research Associate*

**Institute for Translational Medicine and Therapeutics' (ITMAT) Transdisciplinary Award Program (TAPITMAT)**

Poptani & Gur (Co-PIs) 04/01/2012-03/31/2013

*Role: Post-doctoral fellow*

**T32 NIH/MH019112**

Gur (PI) 08/01/2010-07/31/2013Schizophrenia: A Neuropsychiatric Perspective

This training program is focused on: 1) Cognitive and Affective Neuroscience, 2) Genetics, 3) Cellular/Molecular, and 4) Developmental aspects of schizophrenia. Through this grant I receive training in biostatistics and research methods, ethics, and basic neuroscience with an emphasis neuroimaging data analysis in schizophrenia.

*Role: Post-doctoral Fellow*

**R01 NIH/MH042191**  Gur (PI) 08/01/2010-07/31/2012

A Neurobehavioral Family Study of Schizophrenia

This is a Multiplex Multigenerational Investigation (MGI) of three collaborative RO1s that combine genetic and neurobiologic paradigms to advance the understanding of pathogenesis and detection of genes that modulate susceptibility to schizophrenia. I have taken a leadership role in the organization and analysis of neurobehavioral and neuroimaging endophenotypes in the study of multiplex multigenerational (MM) families with schizophrenia and community controls. Neurobehavioral, functional and structural data for 175 community controls and 100 MM family members have been analyzed.

*Role: Post-doctoral Fellow*

**R01 NIH/MH063381**  Moberg (PI) 08/01/2010-07/31/2012

Olfactory Function in Schizophrenia: A Lifespan Analysis

This project represents the only systematic effort to examine the underpinnings of chemosensory impairments in schizophrenia from a life-span perspective. My role includes the image analysis of structural MRI and diffusion weighted scans with a specific emphasis on the olfactory bulb.

*Role: Post-doctoral Fellow*

**NIA P30AG008017**  Janowsky (PI) 02/01/2009-01/31/2010

Oregon Aging and Alzheimer’s Disease Center Pilot Program: Economic decision-making in Mild Cognitive Impairment

Investigation of the brain basis of decision making in the elderly as compared to those with Mild Cognitive Impairment (MCI). My role included behavioral and neuroimaging (fMRI) data collection and analysis.

*Role: Graduate Student*

**DOD PC073093**  Janowsky (PI) 06/01/2006-07/01/2010

Markers and time course of neurodegenerative risk with androgen deprivation therapy

This project investigated the role of testosterone in the brain basis of memory. Behavioral, fMRI, DTI and qT1 collected from healthy older men and those men receiving androgen deprivation therapy (ADT) show that the loss of testosterone may provide an initial hit on the brain that accelerates age-related memory impairments. My role included behavioral and neuroimaging (fMRI & DTI) data collection and analysis.

*Role: Graduate Student*

**T32-AG023477**  Janowsky (PI) 06/01/2006-06/30/2008

Neuroscience of Aging

This was an extensive training program that encompassed the neurobiology of aging, endocrine aging, cognitive aging, age-related diseases of the nervous system, public health and care-giver issues. The perspectives gained through this program enabled me to do research on the neuroscience of aging with a translational understanding: the basic-science that contributes to clinical cures for aging and age-related disorders, and the clinical research that informs the basic scientists on the characteristics of disease so that novel treatment methods are sought.

*Role: Graduate Student*

# **Research Experience**

**11/2001*-*08/2005 Research Coordinator**

Mentors: Bruce Turetsky, M.D. & Paul Moberg, Ph.D.

Department of Neuropsychiatry at the University of Pennsylvania

*Neurophysiology and Brain Imaging Laboratory & Schizophrenia*

*Research Center*

As a research coordinator I performed clinical and basic research with healthy volunteer and patient populations, including schizophrenia, bipolar disorder, epilepsy, and Parkinson’s disease. The primary focus of my work was to examine olfactory function via behavioral and sensory testing, cortical and peripheral evoked potentials (ERPs), and imaging techniques, including structural and functional MRIs. I have technical expertise operating scientific equipment including olfactometers, stimulus delivery and ERP recording systems, acoustic rhinometer/pharyngometers, and computerized neuropsychological test batteries. I became proficient in a wide range of analytic scientific software, including Compumedics/Neuroscan evoked potential SCAN and STIM systems, imaging software NRIA, MEDx and SPM2, statistical software packages including STATISTICA and SPSS and both Macintosh and Windows operating systems.

**08/2005-12/2005 Graduate Research Rotation 1**

Mentor: Barry Oken, M.D., Neurology; Behavioral Neuroscience, OHSU

Project: Electrophysiological Measures Associated with Vigilance

This research rotation incorporated both electrophysiological and behavioral testing of human subjects’ ability to sustain attention to a continuous performance task.

**12/2005-03/2006 Graduate Research Rotation 2**

Mentor: Jeri Janowsky, Ph.D., Behavioral Neuroscience, OHSU

Project: Habituation of Emotional Stimuli

The goal was to assess brain activity associated with age-related changes in emotion. We found that prefrontal brain activity in older adults, as assessed with fMRI, habituates to negative emotional stimuli.

**04/2006-06/2006 Graduate Research Rotation 3**

Mentor: Suzanne Mitchell, Ph.D., Behavioral Neuroscience, OHSU

Project: Mental Representation of Optimal Risk Taking

This project entailed assessing risk taking in normal individuals using behavioral measure to assess impulsivity. Specifically, we were interested in what different populations of people consider to be the most optimal amount of risk.

**06/2006-07/2010 Dissertation**

Title: It’s not fair! Behavioral and neural evidence that equity

influences social economic decisions in healthy older adults.

Mentors: Jeri Janowsky, Ph.D & Suzanne Mitchell, Ph.D

The overall goal of this research proposal is to understand whether older individuals are more susceptible to non-optimal decision-making as compared to the young. My recent work and work by others, suggests that aging alters the neural control of emotion such that less amygdala activity and greater prefrontal activity underlie, at least in part, the behavioral emotional changes. Many of the same regions engaged in the brain circuit underlying emotion are critical to decision-making, including the amygdala, insula and ventromedial prefrontal cortex. However, it is unclear how age-related changes in emotion affect decision-making.

**07/2010-10/2014: Post-doctoral Research Project**

**Neurobehavioral family study of schizophrenia**

**Mentor: Raquel E. Gur, M.D./Ph.D.**

**Project:** Administer a novel computerized neurocognitive battery (CNB) to obtain behavioral endophenotypes related to brain function and elucidate genetic mechanisms producing the neurocognitive endophenotype.

**Fellowships:**

2001 State of Virginia Governor’s Fellowship

2006-2008 NIH T32 Neuroscience of Aging Pre-doctoral Training Fellowship (PI: Janowsky)

2007 University of Michigan fMRI Training Course Fellow

2007 N.L. Tartar Research Fellowship (OHSU)

2008 University of Pittsburgh/Carnegie Mellon Multimodal Neuroimaging Workshop (MNTP) Fellow

2009 University of Michigan Decision Neuroscience Training Workshop Fellow

2010-present NIH T32 Neuropsychiatry Research Training Program (PI: Gur)

**Neuroimaging Training**

2007 University of Michigan fMRI Training Course

2008 University of Pittsburgh/Carnegie Mellon Multimodal Neuroimaging Training Program

2009 University of Michigan Decision Neuroscience Training Workshop Fellow

2009 University of Oxford’s FMRIB FSL Course

2012 Harvard University, Martinos Center for Biomedical Imaging: Freesurfer Course

###### Mentorship

Kaitlin Leonard (2006-2008)-The Apprenticeships in Science and Engineering (ASE) Program at Oregon

Health & Science University

Jamie Podell (2012)- Clinical Neuroscience Training Program at the University of Pennsylvania

Tessa Allen (2012)- Prince George High School International Baccalaureate Program

Elena Wu-Yan (2013-2014)-Brain Behavioral Laboratory Summer Research Fellow

Emmanuel Woodson (2013)-Lincoln University Summer Research Scholar

Danielle Flanders (2014)- University of Michigan

Oluwakemi Adesina (2014)- Conte C-SURE Fellow-Franklin & Marshall

Alexis Galantino (Summer 2015 & 2016) –Conte C-SURE Fellow-Tufts University

Margo Gawronska (2015)- Hanover College via The Philadelphia Center

Wangchen Tsering (2016)- Earlham College via The Philadelphia Center

Wei Hei (2016)- Depauw University via The Philadelphia Center

Tommaso Girelli (2016)- Hanover College via The Philadelphia Center

Jennifer Hill (2017)-St. Joseph’s University (Master’s Student)

**Honors and Awards:**

The following awards were used for research or training activities:

2008 OHSU Student Research Forum Best Poster

2009 Recipient of the OHSU School of Medicine Alliance Award

2009 Recipient of OHSU Ginger Ashworth Foundation Award

2009 Portland, OR University Club Nominee-Portland Chapter

###### 2010 OHSU Student Research Forum Best Oral Presentation ($200)

###### 2013 Human Brain Mapping Trainee Travel Award ($700)

2017 International Congress on Schizophrenia Research (ICOSR) Travel Award

###### Current & Past Scientific Memberships

Society for Neuroscience (SfN)

Human Brain Mapping (HBM)

Cognitive Neuroscience Society (CNS)

Society for Neuroeconomics

International Neuropsychological Society (INS)

American Psychological Association (APA)

The Gerontological Society of America (GSA)

**Editorial Positions**

Associate Editor- The Journal of Alzheimer’s Disease (2017-2018)

**Ad-hoc Reviewer**

American Journal of Geriatric Psychiatry

American Journal of Neuroradiology

Alzheimer’s Association

Alzheimer’s & Dementia

JAMA Psychiatry

Biological Psychiatry

Brain Imaging and Behavior

Brain Research

Brain & Cognition

Cerebral Cortex

Comparative Psychiatry

Cortex

International Journal of Geriatric Psychiatry

Journal of Alzheimer’s Disease

Journal of Applied Gerontology

Journal of Geriatric Psychiatry and Neurology

Journal of Neuroscience

Journal of Osteopathic Medicine

Neuroimage

Neuropsychology

Neuropsychopharmacology

Physiology & Behavior

PLoS One

Psychiatry Research Neuroimaging

Schizophrenia Bulletin

Schizophrenia Research

Scientific Reports

The Journal of Gerontology: Series B Psychological Sciences

**Other Activities**

2006 Junior Student Curriculum Committee Representative (Behavioral Neuroscience)

2006 Brain Awareness Guest Lecturer- West Linn High School, West Linn, OR

2006-08 Student Director for the New Student Orientation (Behavioral Neuroscience)

2007-08 Neuroscience of Aging Journal Club Coordinator

2008-09 Behavioral Neuroscience Student/Faculty Representative

2009-10 Student Organizer- Functional Neuroimaging Journal Club (FuNC)

2009 Student Organizer- New Student Applicant Weekend 2009