Katherine H. Karlsgodt
Curriculum Vitae

Date Prepared: January 3, 2011

Date of Birth: January 27, 1977

Institution: University of California, Los Angeles
Department of Psychiatry and Biobehavioral Sciences
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Positions:

2009-present Assistant Research Scientist
Center for Cognitive Neuroscience
Department of Psychiatry and Biobehavioral Sciences, UCLA

Education and Training:

2007-2009 Postdoctoral Fellow, Neurogenetics Affinity Group
Semel Institute, UCLA
Sponsors: David Jentsch, Ph.D., Tyrone Cannon, Ph.D.

2001-2007 Ph.D., Department of Psychology, Cognitive Neuroscience Area, UCLA
Dissertation Title: "Functional Magnetic Resonance Imaging of Verbal Working Memory in Schizophrenia"
Doctoral Committee: Tyrone D. Cannon, Ph.D. (Chair), Robert Bilder, Ph.D., Joaquin Fuster, M.D., Ph.D, Russell Poldrack, Ph.D.

2001-2003 M.A., Department of Psychology, UCLA

1995-1999 B.A., Psychology, Trinity College, Hartford, CT, 1999
Major: Psychology Minor: Guided Studies, Humanities Honor Program

Current Research Interests:

Characteristics and neural bases of working memory in healthy individuals:
- Structural connectivity and white matter integrity
- Development of white matter and higher level cognitive functions
- Functional connectivity during complex cognitive processes.
- Neural efficiency

Working memory and executive processes, and their disruption in patient populations:
- Individual differences in behavioral performance and functional activation
- Functional imaging of verbal working memory in schizophrenia.
- Neural changes in patients with schizophrenia across development
- Cognitive processing in patients with Neurofibromatosis-1 (Nf-1).
- Genetic influences on cognitive processes and brain activity

Animal models of schizophrenia:
- Integrating translational phenotypes across species
- Cognition: social function, working memory, long term memory
- Neuroimaging: Manganese enhanced MRI, cerebral blood volume, white matter integrity

Techniques:

Functional Magnetic Resonance Imaging (fMRI)
Diffusion Tensor Imaging (DTI)
High field imaging of animal models of schizophrenia (mice)
Manganese enhanced magnetic resonance imaging (MEMRI)
Behavioral testing in human subjects and mice

Awards and Honors:

2010	American College of Neuropsychopharmacology Travel Award
2010	Friends of Semel Institute Travel Award
2008	New York Academy of Sciences James McKeen Cattell Dissertation Award
2007	Department of Psychology Gengerelli Distinguished Dissertation Award
2006	American Psychological Foundation/Council of Graduate Departments of Psychology (APF/COGDOP) Scholarship
2005	Will Rogers Memorial Fellowship
2004	UCLA Graduate Division Travel Award
2003	UCLA Graduate Division Travel Award
2001	Travel Award, Women Gender and Drug Abuse, CPDD, NIDA
1999	Partners in Excellence Award, Massachusetts General Hospital, Partners Healthcare System
1999	Psychology Award, Trinity College Psychology Department
1998-99	Deans List, Trinity College
1995-1997	Guided Studies, Humanities Honors Program, Trinity College

Previous NIH Support:

2008	NIH Loan Repayment Program for Clinical Researchers
2008	Postdoctoral Traineeship in Neurobehavioral Genetics, UCLA (T32 NS048004:03T32 NS048004:03; PI Nelson Freimer, M.D.)
2005	National Research Service Award, NIH, "Properties of Verbal Working Memory in Schizophrenia" 1F31MH068111-01A2
2003-5	Traineeship, Training Program in Neuroimaging, UCLA (T32, PI: Arthur Toga, Ph.D.)
2001	Traineeship, Behavioral Neuroscience Training Grant, UCLA (5T32MH015795-30; PI Michael Fanselow, Ph.D.)

Current Funding:

2010-12	NIH Loan Repayment Program for Clinical Researchers (Renewal)
2009-10	Consortium for Neuropsychiatric Phenomics (CNP) Pilot Project Award, "Translational Assessment of Complex Phenotypes: Bridging the Gap Between Behavior and Brain Function"

Pending Funding:

Assessment of Complex Phenotypes in Dysbindin Mutant Mice, R21 Award, 1R21MH091552-01
Role: Principle Investigator, submitted October 2009, resubmitted July 2010
Development of the Working Memory Circuitry in Adolescents with Psychosis, R21 Award, 1R21MH091337-01
Role: Principle Investigator, submitted October 2009, resubmitted June 2010
Multimodal Assessment of the Working Memory Circuitry in Adolescence, NSF Award
Role: Principle Investigator, submitted January 2010, resubmitted August 2010

Teaching Experience:

UCLA Department of Psychology

Teaching Assistantships

2005	Biological Basis of Psychiatric Disorders, T. Cannon and D. Jentsch
2005	Introduction to Behavioral Neuroscience, L. Butcher
2005	Clinical Psychology Lab, Major Mental Disorders, T. Cannon
2005	Introduction to Behavioral Neuroscience, B. Armstrong
2004	Introduction to Behavioral Neuroscience, D. Jentsch

2003 Introduction to Behavioral Neuroscience, L. Butcher
2003 Human Neuropsychology, D. Zaidel

Supervision of Undergraduates

Research in Psychology: Saied Atoofi, Susie Conn, Liza Anulao, Eric Shamp, Thao Tran, Lindsay Cameron, Jeremy Watson, Kristin Herzberg, Emaka Takashima, Ani Sargsyan, Alice Zhang, Abraham Chiu, Aron Jacobson, Samuel Spiegel

Senior Projects: Kristin Herzberg, Emaka Takashima, Christina Duffin

Trinity College, Hartford, CT

Teaching Assistantships

1998 Research, Design & Analysis, A. Chapdelaine
1998 Child Development. Trinity College, D. Anselmi

Service Activities:

2010 Co-organizer and instructor, Summer fMRI Bootcamp
2009-10 Co-organizer, Behavioral Neuroscience Weekly Seminar
2005 Psychology Undergraduate Research Conference session moderator
2004 Graduate Research Conference Assistant: Psychology Undergraduate Research Conference
2003-7 Content Advisor, UCLA Undergraduate Psychology Journal

Professional Development Activities:

2008 Cold Spring Harbor Laboratory, Schizophrenia and Related Disorders Summer Lecture Course
2005 RIKEN Brain Science Institute, Summer Lecture Course, Japan
2004 IPAM Graduate Summer School: Mathematics in Brain Imaging, UCLA
2003 FMRIB Software Library (FSL) Course, Los Angeles, CA

Community Service Activities:

2010-present Site Manager, Iridescent Learning, Family Science Nights

Ad-Hoc Reviewer:

Journals:

American Journal of Psychiatry
Archives of General Psychiatry
Biological Psychiatry
Brain Research Bulletin
Frontiers in Neuroscience
Human Brain Mapping
Journal of Cognitive Neuroscience
Journal of American Academy of Child and Adolescent Psychiatry
Neuroimage
Neurobiology of Disease
Neurotoxicity Research
Psychiatry Research: Neuroimaging
Schizophrenia Research

Funding Agencies:

National Science Foundation
Swiss National Science Foundation
The Wellcome Trust

Publications:

Peer-Reviewed Journal Articles:

1. Kochunov P, Glahn DC, Lancaster J, Winkler A, **Karlsgodt KH,** Olvera RL, Curran JE, Carless MA, Dyer TD, Almasy L, Duggirala R, Fox PT, Blangero J, Blood Pressure and Cerebral White Matter Share Common Genetic Factors in Mexican Americans, Hypertension, in press
2. **Karlsgodt KH***, Robleto K*, Trantham-Davidson H*, Jairl C, Cannon TD, Lavin A**, Jentsch JD**: Reduced dysbindin expression mediates NMDA receptor hypofunction and impaired working memory performance, Biological Psychiatry, 69: 28-34, 2011
3. Mittal VA, **Karlsgodt KH**, Zinberg J, Cannon TD, Bearden CE: Identification and treatment of a pineal region tumor in an adolescent with prodromal psychotic symptoms, *American Journal of Psychiatry*, 167(9):1033-7, 2010
4. **Karlsgodt KH**, Kochunov P, Winkler AM, Almasy L, Duggirala R, Olvera RL, Fox PT, Blangero J, Glahn DC: A multimodal assessment of the genetic control over working memory, *Journal of Neuroscience*, 30(24) 8197-202, 2010
5. **Karlsgodt KH,** Sun D, Cannon TD: Structural and Functional Brain Abnormalities in Schizophrenia, *Current Directions in Psychological Science*, 19(4) 226-231, 2010 (review)
6. Shilyansky C, **Karlsgodt KH,** Cummings D, Sidiropoulou K, Hardt M, James AS, Ehninger D, Bearden CE, Poirazi P, Jentsch JD, Cannon TD, Levine MS, Silva AJ: Neurofibromin regulates corticostriatal inhibitory networks during working memory performance, *Proceedings of the National Science Academy*, 107(29)13141-6, 2010
7. **Karlsgodt KH,** Niendam TA, Bearden CE, Cannon TD: White Matter Integrity and Prediction of Social and Role Functioning in Subjects at Ultra-High Risk for Psychosis, *Biological Psychiatry*, 66(6):562-9, 2009.
8. Sanz JH, **Karlsgodt KH**, Bearden CE, van Erp TGM, Nandy RR, Ventura J, Nuechterlein KH, Cannon TD: Symptomatic and Functional Correlates of Regional Brain Physiology During Working Memory Processing in Patients with Recent Onset Schizophrenia, *Psychiatry Research*, 173(3):177-82, 2009
9. **Karlsgodt KH**, Sanz J, van Erp TGM, Bearden CE, Nuechterlein KH, Cannon TD: Re-Evaluating dorsolateral prefrontal cortex activation during working memory in schizophrenia, *Schiz Research*, 108(1-3):143-150, 2009
10. **Karlsgodt KH**, Sun D, Jiminez AM, Lutkenhoff ES, Willhite R, van Erp TGM, Cannon TD: Developmental disruptions in neural connectivity in the pathophysiology of schizophrenia, *Development and Psychopathology*, 20(4): 1297-327, 2008 (review)
11. van Erp TGM, Lesh TA, Knowlton BJ, Bearden CE, Hardt M, **Karlsgodt KH**, Shirinyan D, Rao V, Green MF, Subotnik KL, Nuechterlein K, Cannon TD: Remember and know judgments during recognition in chronic schizophrenia, *Schizophrenia Research*, 100(1-3): 181-190, 2008.
12. **Karlsgodt KH**, van Erp TGM, Poldrack RA, Bearden CE, Nuechterlein KH, Cannon TD: Diffusion Tensor Imaging of the Superior Longitudinal Fasciculus and Working Memory in Patients with Recent-Onset Schizophrenia, *Biological Psychiatry*, 63(5): 512-8, 2008.
13. Yamamoto RT, **Karlsgodt KH**, Rott D, Lukas SE, Elman I: Effects of perceived cocaine availability on subjective and objective responses to the drug, *Substance Abuse Treatment Prevention Policy*, 2(30), 2007
14. **Karlsgodt KH**, Glahn DC, van Erp TG, Therman S, Huttunen M, Manninen M, Kaprio J, Cohen MS, Lonnqvist J, Cannon TD.: The relationship between performance and fMRI signal during working memory in patients with schizophrenia, unaffected co-twins, and control subjects, *Schizophrenia Research*, 89(1-3): 191-7, 2007.
15. Cannon TD, Glahn DC, Kim J, Van Erp TGM, **Karlsgodt KH**, Cohen MS, Nuechterlein KH, Bava S, Shirinyan D.: Dorsolateral Prefrontal Cortex Activity During Maintenance and Manipulation Of Information in Working Memory in Patients with Schizophrenia, *Archives of General Psychiatry*, 62(10): 1071-80, 2005
16. **Karlsgodt KH**, Shirinyan D, van Erp TGM, Cohen MS, Cannon TD: Hippocampal involvement in working memory encoding and retrieval, *Neuroimage* 25(4): 1224-31, 2005.
17. Hopper JW, **Karlsgodt KH**, Adler CM, Macklin EA, Lukas SE, Elman I: Effects of acute cortisol administration on attention, recall, and recognition task performance in individuals with cocaine dependence, *Human Psychopharmacology* 19(7): 511-6, 2004.

18. Elman I, Lucas SE, **Karlsgodt KH**, Gasic GP, Breiter HC: Acute cortisol administration triggers craving in individuals with cocaine dependence, P*sychopharmacology Bulletin*, 37(3): 84-9, 2003
19. **Karlsgodt KH**, Lukas SE, Elman I: Psychosocial Stress and the Duration of Cocaine Use in Non-Treatment Seeking Individuals with Cocaine Dependence, *American Journal of Drug and Alcohol Abuse*, 29(3): 539-51, 2003
20. Elman I, **Karlsgodt KH**, Gastfriend DR, Chabris CF, Breiter HC: Cocaine-Primed Craving and its Relationship to Depressive Symptomatology in Individuals with Cocaine Dependence. *J Psychopharmacology* 16(2):163-167, 2002
21. Elman I, Krause S, **Karlsgodt KH**, Schoenfeld DA, Gollub RL, Breiter HC, Gastfriend DR.: Clinical outcomes following cocaine infusion in non treatment-seeking individuals with cocaine dependence. *Biological Psychiatry*. 49(6):553-5, 2001
22. Elman, I., **Karlsgodt, KH**, Gastfriend, DR.: Gender differences in cocaine craving among non-treatment-seeking individuals with cocaine dependence. *Am J Drug Alcohol Abuse* 27(2):193-202, 2001

Book Chapters:

1. **Karlsgodt KH,** Ellman LM, Sun D, Mittal V, Cannon TD: The Neurodevelopmental Hypothesis of Schizophrenia, in *Schizophrenia: The Final Frontier- Festschrift for Robin M. Murray*, Eds A.S David , P McGuffin, S Kapur, Psychology Press.

Articles in Submission:

1. Shirinyan D, Kim J, Glahn D, van Erp TGM, **Karlsgodt KH**, Cohen MS, Nuechterlein KH, Cannon TD: Maintenance and manipulation of spatial information in working memory: subtle dissociations within a common network, in submission
2. van Erp TGM, Lesh TA, Knowlton BJ, Bearden CE, Hardt M, **Karlsgodt KH**, Kushan L, Shirinyan D, Rao V, Green MF, Subotnik KL, Ventura J, Nuechterlein KH, Poldrack RA, Cannon TD: Memory network activation deficits during encoding and retrieval in patients with first-episode schizophrenia, in submission
3. Shirinyan D, Kim J, Glahn DC, van Erp TGM, **Karlsgodt KH**, Cohen MS, Nuechterlein KH, Subotnik K, Ventura J, Cannon TD: Cortical and subcortical contributions to spatial working memory dysfunction in schizophrenia; A trial based fMRI study, in submission

Oral Presentations (selected)

1. **Karlsgodt, KH** Diffusion Tensor Imaging Investigations of White Matter Development in Schizophrenia, symposium (Making Connections: Abnormal white matter development in the early stages of schizophrenia), *Schizophrenia International Research Conference*, Florence, Italy 2010
2. **Karlsgodt, KH:** Neuroimaging of Neurodevelopmental Phenotypes in Schizophrenia, panel presentation (Neurodevelopment and Neurodegeneration in Neuropsychiatric Disorders: From Genotype to Phenotype), *Winter Conference on Brain Research*, Colorado 2009
3. **Karlsgodt KH**, van Erp TGM, Hardt ME, McKinley M, Bearden CE, Poldrack RA, Nuechterlein KH, Cannon TD Diffusion Tensor Imaging of Fronto-parietal Connections in Patients at Ultra-high Risk for Schizophrenia, *International Congress on Schizophrenia Research*, Colorado, 2007
4. **Karlsgodt KH**, Glahn DC, van Erp TGM, Therman S, Huttunen M, Manninen M, Lonnqvist J, Standertskjold-Nordenstam C-G, Kaprio J, Shirinyan D, Cohen MS, Cannon TD: The Relationship Between Behavior and fMRI Signal During a Working Memory Task in Patients with Schizophrenia, Unaffected Co-Twins, and Control Subjects, *Society for Neuroscience*, Washington, D.C., November 2005
5. **Karlsgodt KH**, van Erp TGM, Therman S, Hiltunen J, Manninnen M, Huttunen MO, Lonnqvist J, Kaprio J, Cannon TD: Diffusion Tensor Imaging of Frontal Lobe White Matter in Patients with Schizophrenia, their Healthy Twins, and Control Subjects, *International Congress on Schizophrenia Research*, Spring 2005

6. **Karlsgodt KH**, Shirinyan D, vanErp T, Cohen MS, Cannon TD: Hippocampal involvement in working memory encoding and retrieval. *Society for Neuroscience*, San Diego, CA 2004
7. **Karlsgodt KH**, Gastfriend DR, Roman JS, Elman I: Gender Differences in Cocaine Craving Among Non-Treatment Seeking Individuals with Cocaine Dependence. *American Psychiatric Association*, New Orleans, LA 2001
8. **Karlsgodt KH**, Gastfriend DR, Lukas SE, Elman I: Cocaine Craving during the Menstrual Cycle and its Relationship to Ovarian Steroids, Dopaminergic Neuronal Activity, Stress and Depressive Symptomatology. *Drug and Alcohol Dependence*, 63: S78, 2001
9. **Karlsgodt KH**, Gastfriend DR, Krause S, Lukas S, Elman I: Cocaine Use in Non-Treatment Seekers: Association with Stress, Depressive Symptomatology and Craving. Presented at the 62nd Annual Scientific Meeting of *College on Problems of Drug Dependence*, San Juan, Puerto-Rico, 2000

References

1. Tyrone D. Cannon, Ph.D.
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2. Russell A. Poldrack, Ph.D.
   Imaging Research Center
   Department of Psychology and Neurobiology
   University of Texas at Austin
   3925-B W. Braker Ln
   Austin, TX 78759

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4. Carrie E. Bearden, Ph.D.
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