

CURRICULUM VITA

PERSONAL DATA

Mary M. Heitzeg, Ph.D.
The University of Michigan
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EDUCATION

June, 1990 GMI Engineering & Management Inst., Flint, MI. B.S. in Management Systems
June, 1995 The University of Michigan, Ann Arbor, MI., M.A. in Psychology
Dec., 1999 The University of Michigan, Ann Arbor, MI., Ph.D. in Psychology

POSTDOCTORAL TRAINING

6/2001 – 5/2004 Postdoctoral Research Fellow, The University of Michigan Medical School, Department of Psychiatry and Addiction Research Center.

ACADEMIC APPOINTMENTS

9/1999 – 12/1999 Instructor, The University of Michigan, Department of Psychology.
6/2004 - present Research Investigator, The University of Michigan Medical School, Department of Psychiatry Addiction Research Center

SCIENTIFIC ACTIVITIES

2002 Ad-hoc reviewer, Neuropsychologia
2003 Ad-hoc grant reviewer ZAA1 FF 22 1 NIAAA Special Emphasis Panel
2004 Ad-hoc reviewer, Nicotine and Tobacco Research
2005 Ad-hoc grant reviewer, NIH BRLE Study section
2006 Ad-hoc grant reviewer, University of Michigan Medical School Advisory Council on Clinical Research (ACCR) Internal Clinical Research Initiative Grant Program.
2006 Ad-hoc reviewer, Progress in Neuro-Psychopharmacology & Biological Psychiatry
2006 Ad-hoc reviewer, Neuroimage
2007 Ad-hoc grant reviewer, NIH BRLE Study section
2007 Ad-hoc grant reviewer, The Netherlands Organization for Health Research and Development (ZonMw): Risk, Behaviour and Dependency Program.
2007 Ad-hoc reviewer, Progress in Neuro-Psychopharmacology & Biological Psychiatry
2008 Ad-hoc reviewer, Biological Psychiatry
2008 Ad-hoc reviewer, European Neuropsychopharmacology

GRANT SUPPORT

Recent

NARSAD Independent Investigator Award “Stress and the neurobiology of affective responses”. (Co-investigator) 9/1/02 - 8/30/04. P.I. Jon-Kar Zubieta, \$100,000 total direct cost.
Pilot Grant, University of Michigan fMRI Laboratory. “An fMRI Study of Impulse Control and Affect Regulation in Youth.” (Principle Investigator) \$11,900 total award.

Current

K01 DA2 0088-01, “Longitudinal fMRI Study of Youth at Risk for Drug Abuse.” (Principal Investigator) 100% effort. 8/1/2005 – 7/31/2010. \$134, 500 total direct cost.
R01 AA 012217 “Neurocognitive Risk for Alcoholism into Adulthood”. (Co-investigator) no salary support first 4 years, 08/01/05-07/31/10. P.I. Robert Zucker , \$2,750,000 total direct cost.
R01 1R01DA021032-01 “Neurocognitive risks and consequences of smoking.” (Co-investigator) no salary support first 4 years, 09/30/2005 - 08/31/2010. P.I. Jennifer Glass. \$625,000 total direct cost.
R01 DA 016423 “Neurochemical endophenotypes in pain-stress”. (Co-Investigator) no salary support last 3 years, 9/1/04 – 8/30/08. P.I. Jon-Kar Zubieta, \$1,180,000 total direct cost.

Pending

R01 NIDA “Brain functional endophenotypes modulating drug abuse risk.” (Co-Principal Investigator)

HONORS AND AWARDS

- 1994 Summer Research Partnership funding from The University of Michigan, Rackham School of Graduate Studies.
- 1995 Travel Award from the Department of Neurology, Tübingen University, Tübingen, Germany to present at the “Parietal Lobe Contributions to Orientation in 3D-Space” Workshop.
- 1996 Oleshansky Research Award from the Oleshansky Foundation for outstanding research in the field of Psychology.
- 1996 Psychology Dissertation Grant from the University of Michigan Department of Psychology.
- 1997 One-Term Fellowship from the University of Michigan Department of Psychology.
- 1998 Nominated Departmental Associate by the faculty in The University of Michigan Department of Psychology.
- 1998 Distinguished Graduate Student Instructor Award from The University of Michigan Department of Psychology.
- 2001 Travel Award from the NIAAA to present at the “Alcoholism: Toward an Integration of Basic and Clinical Research Training for the 21st Century” Meeting.

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- 2002 Finalist for Enoch Gordis Research Recognition Award from the Research Society on Alcoholism Education Committee for the presentation of a paper on alcoholism risk factors.
- 2002 Young Investigator Award from the Research Society on Alcoholism for fMRI work on alcoholism risk factors.
- 2003 Junior Investigator CPDD Travel Award for Women & Gender Differences Research from NIDA.
- 2003 Young Investigator Award from the Research Society on Alcoholism for fMRI work on risk factors for alcoholism in children.
- 2004 Rachel Upjohn Clinical Scholars Award from the University of Michigan Department of Psychiatry.

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- 2001 – present Member, Research Society on Alcoholism
- 2002 – present Member, Society for Neuroscience
- 2002 – present Member, Organization for Human Brain Mapping
- 2006 – present Member, University of Michigan Center for Human Growth and Development Brain/Behavior Research in the Developing Child Group
- 2007 – present Member, University of Michigan Substance Abuse Research Center

TEACHING ACTIVITIES

- 1994 Graduate Student Instructor, winter term, Introduction to Biopsychology, the University of Michigan, Department of Psychology.
- 1994 Graduate Student Instructor, fall term, Human Neuropsychology, the University of Michigan Department of Psychology.
- 1994 “The Effect of Neck Muscle Vibration on Egocentric Midline in Unilateral Spatial Neglect Patients” Biopsychology Colloquium Series, Department of Psychology, The University of Michigan.
- 1995 Graduate Student Instructor, winter term, Introduction to Psychology as a Natural Science, the University of Michigan Department of Psychology.
- 1995 Guest Lecturer, Human Neuropsychology course, Department of Psychology, The University of Michigan
- 1995 Graduate Student Instructor, fall term, Human Neuropsychology, the University of Michigan Department of Psychology.
- 1996 Guest Lecturer, Biopsychology Research Methods course, Department of Psychology, The University of Michigan
- 1996 Graduate Student Instructor, winter term, Introduction to Biopsychology, the University of Michigan Department of Psychology.
- 1996 Guest Lecturer, Human Neuropsychology course, Department of Psychology, The University of Michigan.
- 1996 Graduate Student Instructor, fall term, Human Neuropsychology, the University of Michigan Department of Psychology.

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- 1996 “Unilateral Neglect: Clinical Manifestations and Theoretical Explanations” Cognitive Psychology Brown-Bag Colloquium Series, Department of Psychology, The University of Michigan.
- 1997 Graduate Student Instructor, winter term, Labs in Biopsychology, the University of Michigan Department of Psychology.
- 1997 Graduate Student Instructor, fall term, Labs in Biopsychology, the University of Michigan Department of Psychology.
- 1999 “Egocentric Body-Centered Coordinates Modulate Visuomotor Performance” Biopsychology Area Colloquium Series, Department of Psychology, The University of Michigan.
- 2003 “Individual differences in endogenous opioid responses to stress.” Biopsychology Area Colloquium Series, Department of Psychology, The University of Michigan.
- 2003 “An investigation of interindividual differences in human stress-responsive circuits.” Substance Abuse Research Center Departmental Colloquium, Department of Psychiatry, The University of Michigan.
- 2006 Guest Lecturer, Advanced Lab in Psychopathology, the University of Michigan Department of Psychology
- 2006 Guest Lecturer, Developmental Neuroscience of Cognition, Affect & Psychopathology, the University of Michigan Department of Psychology
- 2007 Guest Lecturer, Advanced Lab in Psychopathology, the University of Michigan Department of Psychology

EXTRAMURAL INVITED PRESENTATIONS

- 2003 “Use of functional imaging in the investigation of alcoholism risk.” Michigan State University.
- 2004 “Neuroimaging of genetic and behavioral vulnerability for substance abuse” Michigan State University.
- 2005 “Sex Differences and Gonadal Steroid Influences on Mu-Opioid Receptor Neurotransmission in Humans.” Panel Presentation. *44th American College of Neuropsychopharmacology Annual Meeting.*
- 2006 “fMRI Investigation of Vulnerability Factors for Substance Abuse in Children and Adolescents.” Panel Presentation. *Winter Conference on Brain Research.*
- 2006 “Studies on High Risk Offspring.” Symposium. *Society of Biological Psychiatry’s 61st Annual Scientific Program and Convention*
- 2007 “Protection of Human Subjects.” Lecture in Methods for Biomedical and Psychosocial Addiction Research series. *Collaborative International Substance Abuse Research Training Program. Warsaw, Poland, September 2-5.*
- 2007 “Neuroimaging in Addiction Research.” Lecture in Methods for Biomedical and Psychosocial Addiction Research series. *Collaborative International Substance Abuse Research Training Program. Warsaw, Poland, September 2-5.*
- 2008 “Affective Circuitry and Risk for Alcoholism in Late Adolescence.” Symposium on Alcohol and Adolescent Brain Development. *31st Annual Scientific Meeting of the Research Society on Alcoholism and the 17th Congress of the International Society for Biomedical Research on Alcoholism*

OTHER PRESENTATIONS

- 1994 “Egocentric Midline Representation in Unilateral Spatial Neglect Patients” 1st Annual Graduate Student Conference, Rackham School of Graduate Studies, The University of Michigan.
- 2001 “fMRI study of impulse control and affect regulation in children of alcoholics” *Alcoholism: Toward an Integration of Basic and Clinical Research Training for the 21st Century Meeting*, Indiana Alcohol Research Center and National Institute on Alcohol Abuse and Alcoholism, Indianapolis, IN.
- 2003 “fMRI study of sex differences in impulse and emotion modulation in children of alcoholics” *College for Problems on Drug Dependence 65th Annual Scientific Meeting*. Bal Harbor, FL.
- 2003 “HPA axis and mu-opioid system regulation of pain-stress.” *33rd Annual Meeting of the Society for Neurosciences*, New Orleans, LA.
- 2004 “Stress, affect and mu-opioid receptor mediated response to pain.” *Society of Biological Psychiatry’s 59th Annual Scientific Program and Convention*, April 29th - May 1st, New York, NY.
- 2004 “Effect of early stress on neural correlates of impulsivity and negative affect.” *27th Annual Scientific Meeting of the Research Society on Alcoholism and the 13th Congress of the International Society for Biomedical Research on Alcoholism Abstract*, June 26 – 30th, Vancouver, Canada.

BIBLIOGRAPHY

Peer-Reviewed Publications

(some published under former name, Hasselbach)

1. Hasselbach, M.M., Butter, C.B. (1997) Ipsilesional displacement of egocentric midline in neglect patients with, but not in those without, extensive right parietal damage. Parietal Lobe Contributions to Orientation in 3-D Space. *Experimental Brain Research* (supl.), P. Their (ed.), Springer-Verlag.
2. Cornblath, W.T., Butter, C.B., Barnes, L.L., Hasselbach, M.M., (1998) Spatial characteristics of cerebral polyopia: A case study. *Vision Research*. 38:3965-3978.
3. Hasselbach-Heitzeg, M.M., Reuter-Lorenz, P.A. (2002) Egocentric Body-Centered Coordinates Modulate Visuomotor Performance. *Neuropsychologia*. 40(11):1822-1833.
4. Zubieta, J.-K., Heitzeg, M.M., Smith, Y.R., Bueller, J.M., Xu, K., Xu, Y., Koeppe, R.A., Stohler, C.S., Goldman, D. (2003) COMT Val¹⁵⁸Met genotype affects mu-opioid neurotransmitter responses to a pain stressor. *Science*. 299(5610):1240-3.

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5. Zubieta, J.-K., Heitzeg, M.M., Xu, Y., Keoppe, R.A., Guthrie, S., Woike, T., Ni, L., Domino, E.F. (2005) Effects of Smoking on Regional Cerebral Blood Flow on Overnight Abstinent Smokers. *The American Journal of Psychiatry*. 162(3):567-77.
6. Scott, D.J., Heitzeg, M.M., Keoppe, R.A., Stohler, C. S., Zubieta, J.-K (2006) Variations in the Human Pain Stress Experience Mediated by Ventral and Dorsal Basal Ganglia Dopamine Activity. *J Neuroscience*. 26(42):10789-95.
7. Scott, D.J., Domino, E.F., Heitzeg, M.M., Keoppe, R.A., Ni, L., Guthre, S., Zubieta, J.-K. (2007) Smoking Modulation of Opioid and Dopamine D2 Receptor Mediated Neurotransmission in Humans. *Neuropsychopharmacology*. 32(2):450-7.
8. Heitzeg, M.M., Nigg, J.T., Yau, W., Zubieta, J.-K., Zucker, R.A. (2008) Affective circuitry and risk for alcoholism in late adolescence: Differences in frontostriatal responses between vulnerable and resilient children of alcoholic parents. *Alcoholism: Clinical and Experimental Research*. 32(3):414-26.
9. Jester, JM, Nigg JT, Buu, A, Puttler, LI, Glass, JM, Heitzeg, MM, Fitzgerald, HE, Zucker, RA (2008) Trajectories of childhood aggression and inattention/hyperactivity: Differential effects on substance abuse in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry*. In press.

In Preparation

1. Heitzeg, M.M., Nigg, J.T. Yau, W., Zubieta, J.-K., Zucker, R.A. Early stress affects emotional-cognitive neural interaction during response inhibition in adolescents.
2. Heitzeg, M.M., Nigg, J.T. Yau, W., Zucker, R.A., Zubieta, J.-K. Early stress dysregulates froto-limbic responses to affective stimuli in adolescents at risk for substance use disorder and other psychiatric disorders.
3. Heitzeg, M.M., Zucker, R.A., Zubieta, J.-K. Alcoholism: A neuroanatomical perspective on the influence of familial risk, early-life stress, development and sex hormones.

Abstracts

(some under former name, Hasselbach)

1. Hasselbach, M.M., Butter, C.B. (1995) Egocentric midline representation in unilateral spatial neglect patients with and without extensive parietal lobe damage. *Parietal Lobe Contributions to Orientation in 3D-Space Abstracts*, 39.
2. Hasselbach, M.M., Butter, C.B. (1995) Egocentric midline in unilateral spatial neglect patients. *Cognitive Neuroscience Second Annual Meeting Abstracts*, 105.

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3. Hasselbach, M.M., Butter, C.B. (1996) Effect of trunk rotation on reaction time to lateralized stimuli in normal subjects: A model of egocentrically-based neglect. *Cognitive Neuroscience Third Annual Meeting Abstracts*, 121.
4. Hasselbach, M.M., Butter, C.B., Reuter-Lorenz, P.A. (1997) The effect of egocentric midline position on reaction time to lateralized stimuli in normal subjects: Implications for visual spatial neglect. *Society for Neuroscience Abstracts*, 27, 1590.
5. Heitzeg, M.M., Zubieta, J.-K., Xu, Y., Keoppe, R.A., Guthrie, S., Ni, L., Domino, E.F. (2002) Effects of Smoking on Regional Cerebral Blood Flow in Overnight Abstinent Smokers. *41st American College of Neuropsychopharmacology Annual Meeting*. San Juan, Puerto Rico.
6. Heitzeg, M.M., Zucker, R.A., Zubieta, J.-K. (2002) fMRI study of impulse control and affect regulation in children of alcoholics. *25th Annual Scientific Meeting of the Research Society on Alcoholism and the 11th Congress of the International Society for Biomedical Research on Alcoholism Abstracts*. *Alcoholism: Clinical and Experimental Research*. 26(5) Supplement:89A.
7. Zubieta, J.-K., Heitzeg, M.M., Stohler, S., Smith, Y.R. (2003) An investigation of the neurochemical regulation of pain stress with PET. *42nd American College of Neuropsychopharmacology Annual Meeting*. San Juan, Puerto Rico.
8. Domino, E.F., Ni, L., Heitzeg, M.M., Zubieta, J.-K., (2003) Translating human electroencephalography and positron emission tomography results after tobacco smoking. *42nd American College of Neuropsychopharmacology Annual Meeting*. San Juan, Puerto Rico.
9. Heitzeg, M.M., Zucker, R.A., Zubieta, J.-K. (2003) An fMRI study of impulse and emotion modulation in children of alcoholics. *26th Annual Scientific Meeting of the Research Society on Alcoholism and the 12th Congress of the International Society for Biomedical Research on Alcoholism Abstracts*. *Alcoholism: Clinical and Experimental Research*. 27(5) Supplement:6A.
10. Goldman, D., Heitzeg, M.M., Smith, Y.R., Bueller, J.A., Xu, K., Xu, Y., Koeppe, C., Stohler, S., Zubieta, J.-K. (2003) COMT Val¹⁵⁸Met: Linkage to pain/stress response, anxiety and cognition.. *26th Annual Scientific Meeting of the Research Society on Alcoholism and the 12th Congress of the International Society for Biomedical Research on Alcoholism Abstracts*. *Alcoholism: Clinical and Experimental Research*. 27(5) Supplement:9A.
11. Heitzeg, M.M., Zucker, R.A., Zubieta, J.-K. (2003) fMRI study of sex differences in impulse and emotion modulation in children of alcoholics. *College for Problems on Drug Dependence 65th Annual Scientific Meeting*. Bal Harbor, FL.
12. Heitzeg, M.M., Stohler, C.S., Zubieta, J.-K. (2003) HPA Axis and mu-opioid system regulation of pain-stress. *33rd Annual Meeting of the Society for Neurosciences*, New Orleans, LA.

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13. Zubieta, J.-K., Stohler, C.S., Heitzeg, M.M., Smith, Y.R. (2003) Estradiol regulation of mu-opioid mediated pain-stress responses. *33rd Annual Meeting of the Society for Neurosciences*, New Orleans, LA.

14. Heitzeg, M.M., Zucker, R.A., Zubieta, J.-K. (2003) Sex Differences in Neuroanatomical Correlates of Alcoholism Risk. *42nd American College of Neuropsychopharmacology Annual Meeting*. San Juan, Puerto Rico.

15. Goldman, D., Enoch, M.A., Heitzeg, M.M., Smith, Y.R., Bueller, J.A., Xu, K., Xu, Y., Koeppe, C., Stohler, S., Zubieta, J.-K. (2004) Imaging genetics and brain function. *Yale University School of Medicine Department of Psychiatry and NIAAA Center for the Translational Neuroscience of Alcoholism International Conference on Applications of Neuroimaging to Alcoholism*. New Haven, CT

16. Heitzeg, M.M., Zucker, R.A., Zubieta, J.-K. (2004) Effects of early stress on behavioral risk factors for alcoholism in adolescents: An fMRI study. *34th Annual Meeting of the Society for Neurosciences*, San Diego, CA.

17. Heitzeg, M.M., Nigg, J.T., Zucker R.A., Zubieta, J.-K. (2004) Temperamental resiliency modulates the effects of early stress on reward-related circuitry. *43rd American College of Neuropsychopharmacology Annual Meeting*. San Juan, Puerto Rico.

18. Heitzeg, M.M., Nigg, J.T., Zucker R.A., Zubieta, J.-K. (2005) Temperamental resiliency modulates the effects of early stress on reward-related circuitry: an fMRI study of adolescents at risk for alcoholism. *28th Annual Scientific Meeting of the Research Society on Alcoholism and the 14th Congress of the International Society for Biomedical Research on Alcoholism Abstracts*.

19. Heitzeg, M.M., Zucker R.A., Stoltenberg, S.F., Sliwerska, E., Burmeister, M., Zubieta, J.-K. (2005) 5-HTTLPR polymorphism affects hippocampal and prefrontal BOLD responses to positive and negative lexical stimuli. *35th Annual Meeting of the Society for Neurosciences*, Washington, DC.

20. Heitzeg, M.M., Zucker R.A., Sliwerska, E., Burmeister, M., Zubieta, J.-K. (2005) MAOA polymorphism affects BOLD responses during behavioral and emotional regulation. *44th American College of Neuropsychopharmacology Annual Meeting*. Kona, Hawaii.

21. Heitzeg, M.M., Yau, W.-Y., Zubieta, J.-K., Zucker, R. A. (2007) Early stress affects emotional-cognitive neural interaction during response inhibition in adolescents. *30th Annual Scientific Meeting of the Research Society on Alcoholism and the 16th Congress of the International Society for Biomedical Research on Alcoholism Abstracts*.

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