

**BIOGRAPHICAL SKETCH**

NAME Robert J. Thoma, Ph.D.	POSITION TITLE Clinical Assistant Professor of Psychiatry		
eRA COMMONS USER NAME			
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
University of New Mexico, Albuquerque, NM	B.A.	1983	Economics
University of New Mexico, Albuquerque, NM	M.S.	1995	Clinical Psychology
University of New Mexico, Albuquerque, NM	Ph.D.	1999	Clinical Psychology and Behavioral Neuroscience
Center for Advanced Medical Technologies, Departments of Radiology and Neurosurgery University of Utah, Salt Lake City, UT	Pre-Doctoral Fellow	1997-1998	Neuropsychology and neuroimaging
Southwest Consortium Psychology Predoctoral Internship (SCPPI), Albuquerque, NM.	Pre-Doctoral Intern	1998-1999	Clinical psychology and neuropsychology
Center for Advanced Medical Technologies, Departments of Radiology and Neurosurgery University of Utah, Salt Lake City, UT	Post-Doctoral Fellow	1999-2000	Neuropsychology and neuroimaging
Departments of Psychiatry and Psychology, VAMC, Albuquerque, NM.	Post-Doctoral Fellow	2000-2001	Neuropsychology and neuroimaging in psychopathology

**1. Positions and Honors.****Positions and Employment**

2001-2005 Research Associate, Departments of Psychiatry and Psychology, VAMC, Albuquerque, NM.  
 2002-present Clinical Assistant Professor, UNM School of Medicine, Dept of Psychiatry, Albuquerque, NM.  
 2005-present Research Scientist, Mental Illness and Neuroscience Discovery (MIND) Institute, Abq., NM.

**Other Experience and Professional Memberships**

1993- present Member: International Neuropsychological Society  
 1993- present Member: American Psychological Association  
 1994- present Member: Cognitive Neuroscience Society  
 1994- present Member: BioMag  
 1994 McDonnell Summer Institute for Neuroscience Predoctoral Fellowship.  
 1998 Provost's Award for Graduate Student Research Productivity, University of New Mexico.  
 2002 Letter of Commendation for Outstanding Clinical Service, University of New Mexico Hospital.  
 2005 Assistant Director for Adult Neuropsychology, UNM Center for Neuropsychological Services  
 2005- present Ad Hoc editor *Journal of the International Neuropsychological Society*

**2. Selected peer-reviewed publications**

- Gangestad S, Yeo RA, Shaw P, Thoma RJ, Daniel W & Korthank A (1995). Human leukocyte antigens and hand preference: Preliminary observations. *Neuropsychology*, 10(03), 423-428.
- Lewine JD, Sloan J, Orrison WW, Kodituakku P, Davis J, Hart B, Star J, Hill D, Thoma RJ, Chang S, Waldorf A, Shaw P & Edgar C (1995). Neuromagnetic evaluation of brain dysfunction in post-concussive syndrome associated with mild head trauma. In Uzzel, Stonington & Doronzal (Eds.) *Recovery After Traumatic Brain Injury*, Lawrence Erlbaum and Assoc.
- Gangestad S, Yeo RA, Shaw P, Thoma RJ, Daniel W & Korthank A (1995). Human leukocyte antigens and hand preference: Preliminary observations. *Neuropsychology*, 10(03), 423-428.

4. Thoma RJ, Lewine J, Davis J & Orrison WW (1996). A cortical substrate for hand skill: A MEG evaluation. In C. Aine, E. Flynn, Y. Okada, G. Stroink, S. Swithenby & C. Wood (Eds.) *Biomag96: Advances in Biomagnetism*. New York: Springer-Verlag.
5. Yeo RA, Gangestad S, Thoma RJ, Shaw P, Repa K & Daniel W (1997). Developmental instability and functional asymmetries. *Neuropsychology*, 11(4), 552-561.
6. Davis J, Jones G. & Thoma RJ (1999). MEG assessment of auditory working memory. In T. Yoshimoto, M. Kotani, S. Kuriki, H. Karibe and N. Nakasato (eds.), *Recent Advances in Biomagnetism*. Sendai: Tohoku University Press.
7. Yeo RA, Gangestad S, Edgar C & Thoma RJ (1999). The evolutionary-genetic underpinnings of schizophrenia: A critical comparison of Crow's theory and the developmental instability model. *Schizophrenia Research*, 39(30), 197-206.
8. Lewine JD, Thoma RJ, Provencal SL, Edgar JC, Miller GA & Canive JM (2002). Abnormal stimulus-response intensity functions in post-traumatic stress disorder: An electrophysiological investigation. *American Journal of Psychiatry*, 159(10), 1689-1695.
9. Thoma RJ, Yeo RA, Gangestad S, Lewine JD & Davis J (2002). Developmental instability and hemispheric asymmetry: MRI and MEG correlates. *Laterality*, 7(1), 45-58.
10. Canive JM, Thoma RJ, Edgar JC, Hanlon FM, Moses SN, Weisend MP, Huang M, Bustillo J, Adler LE, & Miller GA. (2002) P50 Sensory Gating Deficit in Schizophrenia: Treatment with Conventional and Atypical Antipsychotics. *The International Journal of Neuropsychopharmacology, Supplement, S82*.
11. Cañive JM, Thoma RJ, Provencal SL, Edgar JC, Miller GA & Lewine JD (2002). Alteraciones Morfofuncionales en Pacientes con Trastorno por Estrés Post-Traumático. *Actas Espanolas de Psiquiatria*, 29, Numero Extraordinario 1, 12.
12. Yeo R, Thoma RJ & Gangestad S (2003). Human handedness: A biological perspective. In A. Segalowitz (Ed.), *Handbook of Neuropsychology*.
13. Thoma RJ, Hanlon F, Moses S, Edgar C, Huang M, Weisend M, Irwin J, Sherwood A, Paulson K, Bustillo J, Adler LE, Miller GA & Canive JM (2003). M50 sensory gating and the neuropsychological deficit in schizophrenia. *American Journal of Psychiatry*, 160, 1595-1605.
14. Huang M, Edgar C, Thoma RJ, Hanlon F, Moses S, Weisend M, Lee RR, Miller G & Canive JM (2003). Predicting EEG Auditory Responses using MEG Sources in Superior Temporal Gyri in Schizophrenia Patients. *Clinical Neurophysiology*, 114, 853-850.
15. Lewis S, Thoma RJ, LaNoue MD, Miller GA, Heller W, Edgar JC, Huang M, Weisend M, Irwin J, Paulson K & Cañive JM (2003). Visual Processing of Facial Affect. *NeuroReport*, 14(4), 1841-5.
16. Hanlon FM, Weisend MP, Huang M, Lee RR, Moses SN, Paulson KM, Thoma RJ, Miller GA & Cañive JM (2003). A non-invasive method for observing hippocampal function. *Neuroreport*, 14(15), 1957-1960.
17. Thoma RJ, Hanlon FM, Moses SN, Edgar JC, Huang MX, Weisend MP, Irwin J, Sherwood A, Paulson KM, Bustillo JR, Adler LA, Miller GA, & Cañive JM. (2003). Lateralization of auditory sensory gating and neuropsychological dysfunction in schizophrenia. *American Journal of Psychiatry*, 160, 1-11.
18. Cañive JM, Thoma RJ & Huang MX (2004). Neurofisiología: Electroencefalografía y Magnetoencefalografía en el Estudio de Trastornos Psiquiátricos. En Leal C y Vallejo J, EDITORES. Tratado de Psiquiatria. Stm Editores, Madrid
19. Cañive JM, Calais LA, Pickard J, Thoma RJ., & Villarreal G. (2004). Efficacy of Aripiprazole monotherapy in the treatment of Posttraumatic Stress Disorder. *International Journal of Neuropsychopharmacology*, 7(S2), S225.
20. Cañive JM, Hanlon FM, Thoma RJ, Moses SN, Weisend MP, Huang M, Irwin J, Paulson K, Martin K, Edgar JC, Bustillo J, & Miller GA. (2004). P50 sensory gating in schizophrenia patients treated with conventional and novel antipsychotics. *International Journal of Neuropsychopharmacology*, 7(S1), S223.
21. Huang MX, Shih J, Lee RR, Harrington D, Thoma RJ, Weisend M, Hanlon FM, Paulson K, Miller GA & Canive JM (2004). Commonalities and differences among vectorized beamformers in electromagnetic source imaging. *Brain Topogr*, 16:3, 139-158.
22. Canive, JM, Hanlon, FM, Thoma, RJ, Moses, SN, Weisend, MP, Huang, M, Irwin, J, Paulson, K, Martin, K, Edgar, JC & Miller, GA (2004). P50 sensory gating in schizophrenia patients treated with conventional and novel antipsychotics. *International Journal of Neuropsychopharmacology*, 7(1) suppl 1, S223-S224.
23. Thoma, RJ, Hanlon, FM, Sanchez, N, Weisend, MP, Huang, M, Jones, A, Miller, GA, and Canive, JM (2004). Auditory Sensory Gating Deficit and Cortical Thickness in Schizophrenia. *Neurology and Clinical Neurophysiology*, 62, 1-7.
24. Thoma RJ, Yeo RA, Gangestad SW, Halgren E, Sanchez NM, & Lewine JD (2005). Cortical volume and developmental instability are independent predictors of general intellectual ability. *Intelligence*, 33, 27-38.
25. Thoma RJ, Hanlon FM, Moses SN, Ricker D, Huang MX, Edgar JC, Irwin J, Torres F, Weisend MP, Adler LE, Miller GA, & Cañive JM (2005). M50 sensory gating predicts negative symptoms in schizophrenia. *Schizophrenia Research*, 73(2-3), 311-318.

26. Hanlon FM, Weisend MP, Yeo RA, Huang M, Thoma RJ, Lee RR, Moses SN, Paulson KM, Petropoulos H, Miller GA, & Cañive JM. (2005). A specific test of hippocampal deficit in schizophrenia. *Behavioral Neuroscience*, 119(4), 863-875.
27. Lewine JD, Davis JT, Pingree J, Thoma RJ, Bigler E, Sloan JH, Funke M, & Orrison WW. (in press). Long-Term Physiological Consequences of Mild and Moderate Head Trauma: A Magnetoencephalographic Investigation. *Brain Injury*.
28. Huang, M., Lee, R.R., Miller, G. A., Thoma, R.J., Hanlon, F.M., Paulson, K.M., Martin, K., Harrington, D.L., Weisend, M.P., Edgar, J.C., Canive, J.M. (2005). A Parietal-Frontal Network Studied by Somatosensory Oddball MEG Responses, and Its Cross-modal Consistency. *NeuroImage*, 28(1), 99-114.
29. Lewine JD, Provencal S, Hill D, Davis J, Funke M, Huang M, Thoma RJ, Orrison W, Johnson M, Paulson K, Hatch K, & Detmers D (in press). Magnetic source imaging of epileptiform activity in autism: Developmental delay versus regressive profiles. *Journal of Autism and Developmental Disorders*.
30. Hanlon FM, Miller GA, Thoma RJ, Irwin J, Moses SN, Huang M, Weisend MP, Paulson KM., Edgar JC, Adler LE Cañive JM. (2005). Distinct M50 and M100 Auditory Gating Deficits in Schizophrenia. *Psychophysiology*, 42, 417-427.
31. Edgar JC, Moses SN, Huang M, Thoma RJ, Hanlon FM, Weisend MP, Miller GA & Cañive JM. (2005). Cross-modal generality of the gating deficit in schizophrenia. *Psychophysiology*, 42(3), 318-27.
32. Thoma, R.J., Hanlon, F.M., Sanchez, F.P, Formoso, M.J., Jones, A., Weisend, M.P., Huang, M., Waldorf, A.V., Miller, G.A. & Canive, J.M. (2006). Neuropsychological and sensory gating deficits related to alcohol abuse history in schizophrenia. *Journal of the International Neuropsychological Society*, 12(1), 34-44.
33. Thoma, R.J., Yeo, R.A., Gangestad, S.W., Halgren, E., Davis, J., Paulson, K.M., Lewine, J.D. (2006). Developmental instability and the neural dynamics of the speed-intelligence relationship. *Neuroimage* 32, 1456-1464.
34. Hanlon, F.M., Weisend, M.P., Hamilton, D.A., Jones, A.P., Thoma, R.J., Huang, M., Martin, K., Yeo, R.A., Miller, G.A., Cañive, J.M. (2006). Impairment on the hippocampal-dependent virtual Morris water task in schizophrenia. *Schizophrenia Research*, 87, 67-80.
35. Moses, S.N., Houck, J.M., Martin, T., Hanlon, F.M., Ryan, J.D., Thoma, R.J., Weisend, M.P., Jackson, E.M., Pekkonen, E., Tesche, C.D. (2007). Dynamic neural activity recorded from human amygdala during fear conditioning using magnetoencephalography. *Brain Research Bulletin*, 71(5), 452-60.
36. Canive, J.M., Miller, G.A., Irwin, J.G., Moses, S.N., Thoma, R.J., Edgar, J.C., Sherwood, A., Torres, F., Lanoue, M., Lewis, S., Hanlon, F.M., Weisend, M.P., Mead, V., Tuason, V.B. (2007). Efficacy of olanzapine and risperidone in schizophrenia: a randomized double-blind crossover design. *Psychopharmacology Bulletin*, 39(1), 105-16.
37. Lewine JD, Davis JT, Bigler E, Hartshorne M, Thoma RJ, Funke M, Sloan JH & Orrison WW. (2007). Multimodal brain imaging in mild and moderate head trauma: integration of MEG, SPECT and MRI. *Journal of Head Trauma Rehabilitation*, 22(3), 141-155.
38. Thoma, R.J., Hanlon, F.M., Huang, M., Moses, S.N., Weisend, M.P., Paulson, K.M., Irwin, J., Edgar, J.C., Miller, G.A. & Cañive, J.M. (2007). Impaired Secondary Somatosensory Gating in Patients with Schizophrenia. *Psychiatry Research*, 151, 189-199.
39. Thoma, RJ, Hanlon, FM, Petropoulos, H, Miller, GA, Moses, SN, Parks, L, Lundy, SL, Sanchez, NM, Jones, A, Smith, A, Huang, M, Weisend, MP, Cañive, JM (in press). Schizophrenia Diagnosis and Anterior Hippocampal Volume Make Separate Contributions to Sensory Gating. *Psychophysiology*.
40. Thoma, R.J., Hill, D.E., Kuny, A., Vermont, L., Tonigan, J.S. & Lewine, J.D. (under review). Validity of Adolescent Self-reported Illicit Drug Use Consequences: Moderators of Self and Parent Agreement. *Journal of Studies on Alcohol and Drugs*.
41. Yeo, R.A., Gangestad, S.W., Thoma, R.J. (in press). Developmental instability and individual variation in brain development: Implications for the etiology of neurodevelopmental disorders. *Trends in Psychological Science*.

**3. Research Support.****Ongoing Research Support**

1K23AA016544-01 Thoma(PI) 10/1/06-10/1/11

Brain and Behavioral Impairment in Alcohol Dependence and Schizophrenia

The scientific goal of this project is to use Neuropsychological Testing, EEG, MEG and MRI to investigate brain and behavioral impairment in comorbid schizophrenia and alcohol dependence. The training goals of this K23 are for the PI to learn and contribute to the relevant alcohol research literature, to learn structural equation modeling and other statistical techniques, and to learn MEG coherence analysis.

Role: PI

1R21AA017313-01 Thoma(PI) 10/1/07-10/1/09

Adolescent Neurodevelopment and Alcohol

The scientific goal of this project is to use Neuropsychological Testing, EEG, MEG, sMRI and MRS to investigate neurodevelopment during adolescence, and to study the effect that alcohol use may have on neurodevelopment and developmental trajectory.

Role: PI

**Completed Research Support**

Research Allocation Committee Grant Thoma (PI) 1/1/05-12/31/06

University of New Mexico School of Medicine

Hippocampal Dependence of P50 Sensory Gating.

This study is an investigation of how EEG- and MEG-assessed sensory gating measures are affected in patients with unilateral temporal lobectomy surgery for epilepsy.

Role: PI

Research Allocation Committee Grant Hanlon (PI) 1/1/05-12/31/06

University of New Mexico School of Medicine

Assessment of Lateralized Hippocampal Function.

This study uses MEG to assess the temporal dynamics of hippocampal activation while people perform a hippocampal-dependant task.

Role: Co-Investigator

1R21MH067287-01A2 Lewis (PI) 3/1/05-2/28/07

Face Affect Processing in Schizophrenia with MEG.

The major goals of this project are to determine the timing and location of brain regions used for processing affective stimuli in healthy and schizophrenia participants.

Role: Co-Investigator

1R21MH069965-01A2 Weisend (PI) 7/1/05-6/31/07

A New Way to Study Cortical Networks in Working Memory.

This study is designed to use MEG to image the time course and location of cortical activation during human working memory task performance.

Role: Co-Investigator

5R01MH065304-04 Canive (PI) 7/1/02-2/1/05

Cortical Basis of Schizophrenia Sensory Gating Deficit.

Principal Investigator/Program Director (Last, First, Middle): PI Name

This major goals of this project are to investigate P50 and M50 sensory gating in schizophrenia, whether the gating effect is cross-modal, and what brain regions are involved in gating.

Role: Project Director

NARSAD Young Investigator Award Thoma (PI) 6/1/2002-7/31/2005

An Investigation of P50/M50 Sensory Gating and sMRI Assessed Brain Structure in Schizophrenia

The goal of this project was to identify how the schizophrenia gating deficit may correspond to well-characterized brain structural and volumetric deficits in schizophrenia.

Role: PI