

VITA
(4/1/11)

Marie T. Banich

Date of Birth: August 6, 1957, N.Y., N.Y.

Address: Institute of Cognitive Science
University of Colorado at Boulder
D420 Muenzinger Hall
344 UCB
Boulder, Colorado 80309-0344
e-mail: Marie.Banich@colorado.edu
Phone: (303)-492-6655 (office); (303)-492-7177(fax)

Education:

Ph.D., University of Chicago, Chicago, IL, Behavioral Sciences, 1985
B.A. *magna cum laude*, Tufts University, Medford, MA, Psychology and
Biology, 1978

Positions:

University of Colorado - Boulder

2010 – present Executive Director, Intermountain Neuroimaging Consortium
2004 – present Director, Institute of Cognitive Science
2000 – present Professor, Dept. of Psychology & Neuroscience

University of Colorado – Denver

2000 – present Professor, Dept. of Psychiatry

University of Illinois – Urbana-Champaign

1998 – 2000 Professor, Dept. of Psychology
1994 – 2000 Co-Chair, Biological Intelligence Major Research Theme, Beckman
Institute for Advanced Science and Technology
1991- 1998 Associate Professor, Dept. of Psychology
1989 - 2000 Leader, Cognitive Neuroscience Group, Beckman Institute for
Advanced Science and Technology
1985 - 1991 Assistant Professor, Dept. of Psychology

Honors:

2009 Fellow, Association for Psychological Science
2007 Fulbright Senior Scholar (University of Verona, Italy)
2005-2006 Emerging Leaders Program, University of Colorado

2005	Justine & Yves Sergent Prize (to a leading female researcher in Cognitive Neuroscience)
2002-2006	Member, MacArthur Foundation Network on Adolescent Development and Juvenile Justice
1996	University Scholar, University of Illinois
1994	Arnold O. Beckman Research Award
1991	Chi Undergraduate Teaching Award, University of Illinois
1991	Participant, International School of Neuroscience, Padua, Italy
1989	Beckman Fellow, Center for Advanced Study, University of Illinois
1988	Participant, James S. McDonnell Summer Institute in Cognitive Neuroscience
1986	Arnold O. Beckman Research Award
1985	NIH Postdoctoral Fellowship (declined)
1976	New England Psychological Association Undergraduate Fellow
1976	Alpha Xi Delta Prize Scholarship, Tufts University

Professional Societies:

American Psychological Association, Association for Psychological Science, Cognitive Neuroscience Society, International Society for Behavioral Neuroscience (President, 2010-present), Organization for Human Brain Mapping

Publications:

A. Books

Banich, M.T. & Compton, R. (2011)

Cognitive Neuroscience, 3rd edition. Belmont, Ca.: Wadsworth.

Banich, M.T. & Caccamisse, D. (Eds.) (2011)

Generalization of Knowledge: Multidisciplinary Perspectives. Philadelphia: Taylor & Francis.

Banich, M.T. (2004)

Cognitive Neuroscience and Neuropsychology, 2nd edition. Boston: Houghton-Mifflin, Co.

Banich, M.T. & Mack, M. (Eds.) (2003)

Mind, Brain, & Language: Multidisciplinary Perspectives Mahwah, N.J.: Lawrence Erlbaum Associates.

Banich, M.T. (1997)

Neuropsychology: The neural bases of mental function. Boston: Houghton-Mifflin Co.

B. Chapters

Banich, M.T. (2008)

Hemispheric specialization and cognition. In Squire, L. (Ed.s). *New Encyclopedia of Neuroscience*. Oxford: Elsevier.

Banich, M.T. (2004)

Magnetic Resonance Imaging. In Craighead, W.E. & Nemeroff, C.B. (Eds.) *The concise Corsini encyclopedia of Psychology and Behavioral Science, 3rd Edition*, pp. 545-546, Hoboken, N.J.: John Wiley & Sons.

Banich, M.T. (2003)

Interacting hemispheres: A means of modulating attention. Pp 267-270. In Iacoboni, M. & Zaidel, E. (Eds.) *The parallel brain: The cognitive neuroscience of the corpus callosum*. Cambridge, MA: The MIT Press.

Banich, M.T. (2003)

The divided visual field technique in laterality and interhemispheric integration. In *Experimental Methods in Neuropsychology*. Hugdahl, K (Ed.). pp.47-64, New York: Kluwer Publishers.

Banich, M.T. (2003)

Interaction between the hemispheres and its implications for the processing capacity of the brain. In *Brain Asymmetry, 2nd edition*, Davidson, R. and Hugdahl, K. (Eds.), pp. 261-302. Cambridge Ma: MIT Press.

Banich, M.T., & Scalf, P.E. (2003)

The neurocognitive bases of developmental reading disorders. In *Mind, Brain, and language: Multidisciplinary perspectives*. **Banich, M.T.** & Mack, M. (Eds.) pp. 283-306, Mahwah, N.J., Lawrence Erlbaum Associates.

Banich, M.T. (2002)

Neuropsychology. In *Textbook of Biological Psychiatry*, D'haenen, H., den Boer, J.A., & Willner, P. (Eds.), pp. 139-153. London: John Wiley & Sons, Ltd.

Banich, M.T., Milham, M.P., Jacobson, B.L., Webb, A., Wszalek, T., Cohen, N.J. & Kramer, A.F. (2001)

Attentional selection and the processing of task-irrelevant information: Insights from fMRI examinations of the Stroop task. In *Vision: from neurons to cognition, Progress in Brain Research, Volume 134*, Casanova, C. & M. Ptito (Eds.). pp 459-470, Amsterdam: Elsevier Science.

Kramer, A.F., Hahn, S., McAuley, E., Cohen, N.J., **Banich, M.T.**, Harrison, C., Chason, J., Boileau, R.A., Bardell, L., Colcombe, A. & Vakil, E. (2001)

Exercise, aging and cognition: Healthy body, healthy mind? In W. Rogers & A.D. Fisk (Eds.), *Human Factors Interventions for the Health Care of Older Adults*. pp. 91-120. Mahwah, N.J.: Erlbaum Associates.

Banich, M.T. & Nicholas, C.D. (1998)

Integration of reading processing between the hemispheres. In *Right hemisphere language comprehension: Perspectives from cognitive neuroscience*. Beeman, M., and Chiarello, C. (Eds.), pp. 51-77, Hillsdale, N.J.: Lawrence Erlbaum Associates.

Banich, M.T. (1995)

Interhemispheric interaction: Mechanisms of unified processing. For *Hemispheric Communication: Mechanisms and Models*. Kitterle, F.L. (Ed.), pp. 271-300, Hillsdale, N.J.: Lawrence Erlbaum Associates.

Banich, M.T. (1995)

Interhemispheric processing: Theoretical and empirical considerations. In *Brain Asymmetry*, Davidson, R. and Hugdahl, K. (Eds.), pp. 427-450, Cambridge Ma: MIT Press.

Levine, S.C, **Banich, M.T.**, & Kim, H. (1987)

Variations in arousal asymmetry: Implications for face processing. In *Duality and Unity of the Brain*, Ottoson, D. (Ed.) Wenner-Gren International Symposium Series, Vol. 47, pp. 207-222, London: The MacMillian Press, Ltd.

C. Articles & Reviews (*represents an individual for whom I served as a primary graduate or post-doctoral advisor)

*Depue, B.E. & **Banich, M.T.** (in press).

Increased Inhibition and Enhancement of Memory Retrieval are Associated with Reduced Hippocampal Volume, *Hippocampus*.

Spielberg, J.M., Miller, G.A., Engels, A.S., Herrington, J.D., Sutton, B.P., **Banich, M.T.**, & Heller, W. (2011)

Trait approach and avoidance motivation: Lateralized neural activity associated with executive function. *Neuroimage*, 54, 661-670.

Gee, D.G., Biswal, B.B., Kelly, C., Stark, D.E., Margulies, D.S., Shehzad, Z., Uddin, L.Q., Klein, D.F., **Banich, M.T.**, Castellanos, F.X., & Milham, M.P. (2011)

Low frequency fluctuations reveal integrated and segregated processing among the cerebral hemispheres. *Neuroimage*, 54, 517-527.

*Depue, B.E., *Burgess, G.C., Willcutt, E.G., *Ruzic, L., & **Banich, M.T.** (2010)

Inhibitory control of memory retrieval and motor processing associated with the right lateral prefrontal cortex: Evidence from deficits in individuals with ADHD. *Neuropsychologia*, 48, 3909-3917.

Crowley, T.J., Dalwani, M.S., Mikulich-Gilbertson, S.K., Du, Y.P., Lejuez, C.W., Raymond, K.M. & **Banich, M.T.** (2010)

Risky decisions and their consequences: Neural processing by boys with antisocial substance disorder. *PLoS ONE* 5(9): e12835.
doi:10.1371/journal.pone.0012835

*Snyder, H.R., Hutchison, N., Nyhus, E., Curran, T., **Banich, M.T.**, O'Reilly, R.C., & Munakata, Y. (2010)

Neural inhibition enables selection during language processing. *Proceeding of the National Academy of Sciences USA*, 107, 16483-16488.

*Depue, B.E., *Burgess, G.C., Bidwell, L.C., Willcutt, E.G., & **Banich, M.T.** (2010)

Behavioral performance predicts grey matter reductions in the right inferior frontal gyrus in young adults with combined type ADHD. *Psychiatry Research: Neuroimaging*, 182, 231-237.

*Depue, B.E., *Burgess, G.C., Willcutt, E.G., Bidwell, L.C., *Ruzic, L. & **Banich, M.T.**

(2010)

Symptom-correlated brain regions in young adults with combined type ADHD: Their organization, variability, and relation to behavioral performance. *Psychiatry Research: Neuroimaging*, 182, 86-102.

Banich, M.T. (2010)

Brain imaging of the neural systems affected in adults with attention-deficit/hyperactivity disorder. *Expert Reviews in Neurotherapeutics*, 10, 1523-1527.

*Burgess, G.C., *Depue, B.E., *Ruzic, L., Willcutt, E.G., Du, Y.P. & **Banich, M.T.** (2010) Attentional Control Activation Relates to Working Memory in Attention-Deficit/Hyperactivity Disorder. *Biological Psychiatry*, 67, 632-640.

Herrington, J.D., Heller, W., Mohanty, A., Engels, A.S., **Banich, M.T.**, Webb, A.G. & Miller, G.A. (2010)

Localization of asymmetric brain function in emotion and depression. *Psychophysiology*, 47, 442-454.

Silton, R.L., Heller, W., Towers, D.N., Engels, A.S., Spielberg, J.M., Edgar, J.C., Sass, S.M., Stewart, J.L., Sutton, B.P., **Banich, M.T.**, & Miller, G.A. (2010)

The time course of activity in dorsolateral prefrontal cortex and anterior cingulate cortex during top-down attentional control. *Neuroimage*, 50, 1292-1302.

Engels, A., Heller, W., Spielberg, J.M., Warren, S.L., Sutton, B.P., **Banich, M.T.**, Miller, G.A. (2010)

Co-occurring anxiety influences patterns of brain activity in depression. *Cognitive, Affective, and Behavioral Neuroscience*, 10, 141-156.

Cauffman, E., Shulman, E., *Claus, E., **Banich, M.**, Graham, S., Woolard, J. & Steinberg, L. (2010).

Age differences in affective decision making. *Developmental Psychology*, 46, 193-207

*Whitmer, A. J. & **Banich, M.T.** (2010)

Trait rumination and inhibitory deficits in long-term memory. *Cognition & Emotion*, 24, 168-179.

Steinberg, L., Cauffman, E., Woolard, J., Graham, S., & **Banich, M.T.** (2009)

Are adolescents less mature than adults? Minor's access to abortion, the juvenile death penalty, and the alleged APA "Flip-Flop". *American Psychologist*, 64, 583-594.

Steinberg, L., Cauffman, E., Woolard, J., Graham, S. & **Banich, M.T.** (2009)

Reconciling the Complexity of Human Development With the Reality of Legal Policy: Reply to Fischer, Stein, and Heikkinen, *American Psychologist*, 64, 601-604.

Banich, M.T., *Burgess, G.C., *Depue, B.E., *Ruzic, L., Bidwell, L.C., Hitt-Laustsen, S., Du, Y.P., & Willcutt, E.G. (2009)

The neural basis of sustained and transient attentional control in young adults with ADHD. *Neuropsychologia*, 47, 3095-3014.

Banich, M.T. (2009)

Executive Function: The search for an integrated account. *Current Directions in Psychological Science*, 18, 89-94.

Banich, M.T., *Mackiewicz, K.L., *Depue B.E., *Whitmer, A., Miller, G.A., & Heller, W. (2009)

Cognitive Control Mechanisms, Emotion, and Memory: A neural perspective with implications for psychopathology. *Neuroscience and Biobehavioral Reviews*, 33, 613-630.

Steinberg, L, Graham, S., O'Brien, L., Woolard, J., Cauffman, E. & **Banich, M.** (2009) Age differences in future orientation and delay discounting. *Child Development*, 80, 28-44.

*Scalf, P.E., **Banich, M.T.**, & Erickson, A.B. (2009)

Interhemispheric interaction expands attentional capacity in an auditory selective attention task. *Experimental Brain Research*, 194, 317-322.

*Hutchinson, A.D., Mathias, J.L., *Jacobson, B.L., *Ruzic, L., *Bond, A.N. & **Banich, M.T.** (2009)

Relationship between intelligence and the size and composition of the corpus callosum. *Experimental Brain Research*, 192, 455-464.

Tanabe, J., Tregellas, J.R., Thompson, L., Dalwani, M., Owens, E., Crowley, T., & **Banich, M.T.** (2009)

Medial orbitofrontal cortex gray matter is reduced in abstinent substance dependent individuals. *Biological Psychiatry*, 65, 160-164.

Stark, D.E., Margulies, D.S., Shehzad, Z.E., Reiss, P., Kelly, A.M., Uddin, L.Q., Gee, D.G., Roy, A.K., **Banich, M.T.**, Castellanos, F.X., & Milham, M.P. (2008)

Regional variation in interhemispheric coordination of intrinsic hemodynamic fluctuations. *Journal of Neuroscience*, 28, 13754-13764,

Steinberg, L., Albert, D., Cauffman, E., **Banich, M.**, Graham, S., Woolard, J. (2008)

Age differences in sensation seeking and impulsivity as indexed by behavior and self-report: Evidence for a dual systems model. *Developmental Psychology*, 44, 1764-1778.

*Hutchinson, A.D., Mathias J.L. & **Banich, M.T.** (2008)

Corpus callosum morphology in children and adolescents with Attention Deficit Hyperactivity Disorder: a meta-analytic review. *Neuropsychology*, 22, 341-349.

Filbey, F.M., *Claus, E., Audette, A.R., Niculescu, M., **Banich, M.T.**, Tanabe, J, Du, Y.P., & Hutchison, K.E. (2008)

Exposure to the taste of alcohol elicits activation of the mesocorticolimbic neurocircuitry. *Neuropsychopharmacology*, 33, 1391-1401.

Banich, M.T., Crowley, T.J., Thompson, L.L., *Jacobson, B.L., *Liu, X., Raymond, K.M., & *Claus, E.D. (2007)

Brain activation during the Stroop task in adolescents with severe substance and conduct problems: A pilot study. *Drug and Alcohol Dependence*, 90, 175-182.

*Depue, B. Curran, T. & **Banich, M.T.** (2007)

Prefrontal regions orchestrate suppression of emotional memories via a two-phase process. *Science*, 317, 215-219.

*Whitmer, A. & **Banich, M.T.** (2007)

- Inhibition versus switching deficits in different forms of rumination. *Psychological Science*, *18*, 546-553.
- Yoshizaki, K., *Weissman, D.H., & **Banich, M.T.** (2007)
A hemispheric division of labor aids mental rotation. *Neuropsychology*, *21*, 326-336.
- *Scalf, P.E., **Banich, M.T.**, Kramer, A.F., Narechania, K., & Simon, C.L. (2007)
Double take: Parallel processing by the cerebral hemispheres reduces the attentional blink. *Journal of Experimental Psychology: Human Perception and Performance*, *33*, 298-329.
- Tanabe, J., Thompson, L., *Claus, E., Dalwani, M., Hutchison, K., & **Banich, M.T.** (2007)
Prefrontal cortex activity is reduced in gambling and non-gambling substance users during decision making. *Human Brain Mapping*, *28*, 1276-1286.
- Engels, A.S., Heller, W., Mohanty, A., Herrington, J.D., **Banich, M.T.**, Webb, A.G., & Miller, G.A. (2007)
Specificity of regional brain activity in anxiety types during emotion processing. *Psychophysiology*, *44*, 352-363.
- Mohanty, A., Engels, A.S., Herrington, J.D., Heller, W., Ringo Ho, M-H.R., **Banich, M.T.**, Webb, A.G., Warren, S.L., & Miller, G.A. (2007)
Differential engagement of anterior cingulate cortex subdivisions for cognitive and emotional function. *Psychophysiology*, *44*, 343-351.
- Lopez, M. Kosson, D.S., *Weissman, D.H., & **Banich, M.T.** (2007)
Interhemispheric integration in psychopathic offenders. *Neuropsychology*, *21*, 82-93.
- *Lui, X., **Banich, M.T.**, Jacobson, B.L., & Tanabe, J.L. (2006)
Response and non-response related aspects of attentional selection as ascertained by fMRI. *Cerebral Cortex*, *16*, 827-834.
- *Depue, B. E. **Banich, M.T.**, & Curran, T. (2006)
Suppression of emotional and non-emotional content in memory: Effects of repetition on cognitive control. *Psychological Science*, *17*, 441-447.
- Herd, S.A., **Banich, M.T.**, & O'Reilly, R.C. (2006)
Neural mechanisms of cognitive control: An integrative model of Stroop task performance and fMRI data, *Journal of Cognitive Neuroscience*, *18*, 22-32.
- Spencer, K.M. & **Banich, M.T.** (2005)
Hemispheric biases and the control of visuospatial attention: an ERP study. *Biomedical Central Neuroscience*, *6*, 51.
- *Milham, M.P. & **Banich, M.T.** (2005)
Anterior cingulate cortex: An fMRI analysis of conflict specificity & functional differentiation. *Human Brain Mapping*, *25*, 328-335.
- Mohanty, A. Herrington, J.D., Koven, N.S., Fisher, J.E., Wenzel, E.A., Webb, A.G., Heller, W., **Banich, M.T.**, & Miller, G.A. (2005)
Neural mechanisms of affective interference in schizotypy. *Journal of Abnormal Psychology*, *114*, 16-27.
- Herrington, J.D., Mohanty, A., Koven, N.S., Fisher, J.E., Stewart, J.L., **Banich, M.T.**, Webb, A.G., Miller, G.A., & Heller, W. (2005)

- Emotion-modulated performance and activity in left dorsolateral prefrontal cortex. *Emotion*, 5, 200-207.
- *Liu, X., **Banich, M.T.**, *Jacobson, B.L. & Tanabe, J.L. (2004)
Common and distinct neural substrates of attentional control in an integrated Simon and spatial Stroop task as assessed by event-related fMRI. *Neuroimage*, 22, 1097-1106.
- Erickson, K.I., Milham, M.P., Colcombe, S.J., Kramer, A.F., Banich, M.T., Webb, A., Cohen, N.J. (2004)
Behavioral conflict, anterior cingulate cortex, and experiment duration: implications of diverging data. *Human Brain Mapping*;21, 98-107.
- *Milham, M.P., **Banich, M.T.** & *Barad, V. (2003)
Competition for priority in processing increases prefrontal cortex's involvement in top-down control: an event-related fMRI study of the Stroop task. *Cognitive Brain Research*, 17, 212-222.
- *Compton, R.J., **Banich, M.T.**, Mohanty, A. *Milham, M.P., Herrington, J., Miller, G.A., *Scaif, P.E., Webb, A. & Heller, W. (2003)
Paying attention to emotion: An fMRI investigation of cognitive and emotional Stroop tasks. *Cognitive, Affective & Behavioral Neuroscience*, 3, 81-86.
- Koven, N., Heller, W., **Banich, M.T.** & Miller, G.A. (2003).
Relationships of distinct affective dimensions to performance on an emotional Stroop task. *Cognitive Therapy and Research*, 27, 671-680.
- *Milham, M.P., **Banich, M.T.**, *Claus, E., & Cohen, N. (2003)
Practice-related effects demonstrate complementary roles of anterior cingulate and prefrontal cortices in attentional control. *Neuroimage*, 18, 483-493.
- Milham, M.P., Erickson, K.I., **Banich, M.T.**, Kramer, A.F., Webb, A., Wszalek, T. & Cohen, N.J. (2002)
Attentional control in the aging brain: Insights from an fMRI study of the Stroop task. *Brain & Cognition*, 49, 277-296.
- Passarotti, A. M., **Banich, M.T.**, Sood, R.K., & Wong, J.M. (2002)
A generalized role of interhemispheric interaction under attentionally-demanding conditions: Evidence from the auditory and tactile modalities. *Neuropsychologia*, 40, 1082-1096.
- Milham, M.P., **Banich, M.T.**, Webb, A., Barad, V., Cohen, N.J., Wszalek, T. & Kramer, A.F. (2001)
The relative involvement of anterior cingulate and prefrontal cortex in attentional control depends on nature of conflict. *Cognitive Brain Research*, 12, 467-473.
- DiGirolamo, G.J., Kramer, A.F., Barad, V., Cepeda, N.J., Weissman, D.H., Milham, M.P., Wszalek, T.M., Cohen, N.J., **Banich, M.T.**, Webb, A., Beloposky, A.V., & McAuley, E. (2001)
General and Task-Specific Frontal Lobe Recruitment in Older Adults during Executive Processes: A fMRI investigation of Task-Switching. *Neuroreport*, 12, 2065-2071.

- Banich, M.T.**, Milham, M.P., Atchley, R.A, Cohen, N.J, Webb, A., Wszalek, T., Kramer, A.F., Liang, Z.-P., Wright, A., Shenker, J., Magin, R., Barad, V., Gullett, D., Shah, C., & Brown, C. (2000)
fMRI studies of Stroop tasks reveal unique roles of anterior and posterior brain systems in attentional selection. *Journal of Cognitive Neuroscience*, *12*, 988-1000.
- Brown, W.S. and **Banich, M.T.** (2000)
Special Guest Editors: "Development of the Corpus Callosum and Interhemispheric Interactions". *Developmental Neuropsychology*, *18*(1).
- Banich, M.T.**, Passarotti, A., & Janes, D. (2000)
Interhemispheric interaction during childhood: I. Neurologically-intact children. *Developmental Neuropsychology*. *18*, 33-51.
- Banich, M.T.**, Passarotti, A., White, D. A., Nortz, M.J., & Steiner, R.D. (2000)
Interhemispheric interaction during childhood: II. Children with early-treated phenylketonuria. *Developmental Neuropsychology*, *18*, 53-71.
- Banich, M.T.** & Brown, W.S. (2000)
A lifespan perspective on interaction between the cerebral hemispheres. *Developmental Neuropsychology*, *1-10*.
- Banich, M.T.**, Milham, M.P., Atchley, R.A, Cohen, N.J, Webb, A., Wszalek, T., Kramer, A.F., Liang, Z.-P., Barad, V., Gullett, D., Shah, C., & Brown, C. (2000)
Prefrontal regions play a predominant role in imposing an attentional "set": Evidence from fMRI. *Cognitive Brain Research*, *10*, 1-9.
- Weissman, D.H., **Banich, M.T.**, & Puente, E.I. (2000)
An unbalanced distribution of inputs across the hemispheres facilitates interhemispheric interaction. *Journal of the International Neuropsychological Society*, *6*, 313-321.
- Banich, M.T.** & Weissman, D.H. (2000)
One of twenty questions for the twenty-first century: How do brain regions interact and integrate information? *Brain & Cognition*, *42*, 29-32.
- Compton, R.J., Heller, W., **Banich, M.T.**, Palmieri, P.A. & Miller, G.A. (2000)
Responding to threat: Hemispheric asymmetries and interhemispheric processing. *Neuropsychology*, *14*(2), 254-264.
- Weissman, D.H. & **Banich, M.T.** (2000)
The cerebral hemispheres cooperate to perform complex but not simple tasks. *Neuropsychology*, *14* (1), 41-59.
- Kramer, A.F., Hahn, S. Cohen, N.J., **Banich, M.T.**, McAuley, E., Harrison, C., Chason, J., Vakil, E., Bardell, L. & Colcombe, A. (1999)
Ageing, fitness and neurocognitive function. *Nature*, *400*, 418-419.
- Weissman, D.H. & **Banich, M.T.** (1999)
Global-local interference modulated by communication between the hemispheres. *Journal of Experimental Psychology: General*, *128*, 283-308.
- Banich, M.T.** & Federmeier, D.K. (1999)
Categorical and metric spatial processes distinguished by task demands and practice. *Journal of Cognitive Neuroscience*, *11*, 153-166.

- Kerns, J.G., Berenbaum, H., Barch, D.M., **Banich, M.T.**, Stolar, N. (1999)
Word production in schizophrenia and its relationship to positive symptoms.
Psychiatry Research, 87, 29-37.
- Banich, M.T.** (1998)
The missing link: The role of interhemispheric interaction in attentional processing. *Brain and Cognition, 36*, 128-157.
- Banich, M.T.** (1998)
Integration of information between the cerebral hemispheres. *Current Directions in Psychological Science 7*, 32-37.
- Banich, M.T.** & Heller, W. (1998)
Evolving perspectives on lateralization of function. *Current Directions in Psychological Science 7*, 1-2.
- Banich, M.T.** & Heller, W. (1998)
Special Guest Editors: "Lateralization of function". *Current Directions in Psychological Science 7*(1).
- Belger, A. & **Banich, M.T.** (1998)
Costs and benefits of integrating information between the cerebral hemispheres: A computational perspective. *Neuropsychology, 12*, 380-398.
- Banich, M.T.** & Shenker, J. (1994)
Investigations of interhemispheric processing: Methodological considerations. *Neuropsychology, 8*(2), 263-277.
- Banich, M.T.** & Shenker, J. (1994)
Dissociations in memory for item identity and item frequency: Evidence from hemispheric interactions. *Neuropsychologia, 32*, 1179-1194.
- Stokes, A.F., Belger, A., **Banich, M.T.** & Bernadine, E. (1994)
Effects of alcohol and chronic aspartame ingestion upon performance in aviation relevant cognitive tasks. *Aviation, Space, and Environmental Medicine, 65*, 7-15
- Stolar, N., Berenbaum, H., **Banich, M.T.**, & Barch, D. (1994)
Neuropsychological correlates of alogia and affective flattening in schizophrenia. *Biological Psychiatry, 35*, 164-172.
- Banich, M.T.** & Noll, E. (1993)
Target detection in right and left hemispace: Effects of positional pre-cuing and type of background. *Neuropsychologia, 31*, 525-546.
- Banich, M.T.**, Stolar, N., Heller, W., & Goldman, R. (1992)
A deficit in right-hemisphere performance after induction of a depressed mood. *Neuropsychiatry, Neuropsychology, and Behavioral Neurology, 5*, 20-27.
- Banich, M.T.** Elledge, V.C., & Stolar, N. (1992)
Variations in lateralized processing among right-handers: Effects on patterns of cognitive performance. *Cortex, 28*, 273-288.
- Banich, M.T.**, & Karol, D. (1992)
The sum of the parts does not equal the whole: Evidence from bihemispheric processing. *Journal of Experimental Psychology: Human Perception and Performance, 18*, 763-784.
- Belger, A., & **Banich, M.T.** (1992)

- Interhemispheric interaction affected by computational complexity. *Neuropsychologia*, 30, 923-931.
- Banich, M.T.**, & Belger, A. (1991)
Inter- versus intrahemispheric concordance of judgments in a non-explicit memory task. *Brain and Cognition*, 15, 131-137.
- Stokes, A., Belger, A., **Banich, M.T.**, & Taylor H. (1991)
Effects of acute aspartame and acute alcohol ingestion upon the cognitive performance of pilots. *Aviation, Space, and Environmental Medicine*, 62, 648-653.
- Stokes, A., **Banich, M.T.**, & Elledge, V.C. (1991)
Testing the tests - An empirical evaluation of screening tests for the detection of cognitive impairment in aviators. *Aviation, Space, and Environmental Medicine*, 62, 783-788.
- Banich, M.T.**, & Belger, A. (1990)
Interhemispheric interaction: How do the hemispheres divide and conquer a task? *Cortex*, 26, 77-94.
- Banich, M.T.**, Goering, S., Stolar, N., & Belger, A. (1990)
Interhemispheric processing in left- and right-handers. *International Journal of Neuroscience*, 54, 197-208.
- Banich, M.T.**, Levine, S.C., Kim, H., & Huttenlocher, P. (1990)
The effects of developmental factors on IQ in hemiplegic children. *Neuropsychologia*, 28, 35-47.
- Banich, M.T.**, Stokes, A., & Elledge, V. C. (1989)
Neuropsychological evaluation of aviators: A review. *Aviation, Space and Environmental Medicine*, 60, 361-366.
- Banich, M.T.**, Heller, W., & Levy, J. (1989)
Aesthetic preference and picture asymmetries. *Cortex*, 25, 187-196.
- Levine, S.C., **Banich, M.T.**, & Koch-Weser, M. (1988)
Face recognition: A general or specific right hemisphere capacity? *Brain and Cognition*, 8, 303-325.
- Levine, S.C., Huttenlocher, P., **Banich, M.T.**, & Duda, E. (1987)
Factors affecting cognitive functioning in hemiplegic children. *Developmental Medicine and Child Neurology*, 29, 27-35.
- Levine, S.C., & **Banich, M.T.** (1984)
Some comments on possible effects of forced report order on tachistoscopic recognition of bilaterally presented stimuli: A response to Young and Ellis. *Brain and Language*, 21, 364-374.
- Levine, S.C., **Banich, M.T.**, & Koch-Weser, M. (1984)
Variations in patterns of lateral asymmetry among dextrals. *Brain and Cognition*, 3, 317-334.
- Levy, J., Heller, W., **Banich, M.T.**, & Burton, L.A. (1983)
Are variations among right-handed individuals in perceptual asymmetries caused by characteristic arousal differences between hemispheres? *Journal of Experimental Psychology: Human Perception and Performance*, 9, 329-359.

Levy, J., Heller, W., **Banich, M.T.**, & Burton, L.A. (1983)

Asymmetries of perception in free viewing of chimeric faces. *Brain and Cognition*, 2, 404-419.

Levine, S.C., & **Banich, M.T.** (1982)

Lateral asymmetries in the naming of words and corresponding line drawings. *Brain and Language*, 17, 34-45.

Current Research Interests:

Cognitive Neuroscience with an emphasis on executive function in normal and clinical populations. Other interests include cognitive neuroscience of adolescence development, as well the interaction between emotion and cognition.

Grants and Research Support:

A. Current Grant Support (direct costs for current year are noted)

Interdisciplinary Behavioral Science Center: Determinants of Executive Function and Dysfunction (Banich, P.I.)

NIMH: 5 P50 MH079485-04 4/22/2008 – 1/31/2013 \$1,279,078

This center grant uses behavioral, neuroimaging, and computational methods to examine executive function. It involves 5 projects that each examine executive function from a different perspective (cognitive control, learning and memory, emotion, development, genetics) and three cores (administrative, brain mapping, computational).

Cognitive and Brain Processes in Individuals with Childhood Interpersonal Trauma (Banich, P.I.)

NICHD: 1 R03 HD062600-02 1/15/2010 – 12/31/2011 \$50,000

This project is designed to use fMRI to examine the neural systems that are altered in young adulthood as a consequence of having been physically or sexually abused during childhood.

Executive Dysfunction and Suicidal Behavior: An Examination of Veterans with Traumatic Brain Injury, Post-Traumatic Stress Disorder or Both (Banich, P.I.)

Colorado Dept. of Health Services:10 IHA 12614 4/01/2010 – 3/31/2012 \$139,953

This project is designed to utilize measures of executive function taken from cognitive neuroscience research as well as standard neuropsychological measures to determine those measures that can distinguish individuals with mild traumatic brain injury (mTBI), post-traumatic stress disorder (PTSD), both disorders (mTBI+PTSD) or neither disorder. In addition, it is designed to determine which of these measures is associated with suicidal thoughts and self-injurious behaviors.

Substance Dependent Adolescents: Imaging Risk-Taking (Co-I., Crowley, P.I.)

NIDA: 2 R01 DA009842-13 9/05/2006 – 4/30/2011 \$405,568

The objective of this research is to better understand whether substances diminish the capacity to inhibit behavior by altering brain processing of risky decisions, or whether pre-existing, anatomically-based variations of brain processing produce risk-taking propensities, or both.

Center on Antisocial Drug Dependence: The Genetics of HIV Risk Behaviors
Component 3: A Neurogenetic Basis for Risky HIV-Related Decisions (Center P.I. Hewitt,
Component P.I. Crowley)

NIDA: 2 P60 DA011015-12 5/01/2009 – 2/28/2014 \$1,724,832 (center)

This center grant contributes to our understanding of the etiology of individual differences in behavioral disinhibition, the relationship of this to drug abuse and the development of dependence, and the role that these play in the propensity for risky behaviors that may result in STDs, including HIV/AIDS.

B. Pending Grant Support

Patterns of Developmental Change in Brain and Behavior in Adolescents with ADHD (P.I. Banich)

R01 NIMH 9/01/2011 – 8/31/2016 \$449,722

The goal of this project is to examine, over the course of the adolescent time period, the neural and behavioral profiles that distinguish ADHD from non-ADHD youth, as well as those that distinguish between ADHD subtypes.

Imaging Adolescents with Serious Substance and Conduct Problems: a Longitudinal Study (P.I.s, Banich & Sakai)

R01 NIDA 12/01/2011 – 11/30/2016 \$639,695

The goal of this project is to examine what brain systems change and what brain systems are unaffected as a result of a 16-week course of treatment and abstinence in male youth with severe substance and conduct problems.

Frontal-Subcortical Development, Movement Abnormalities, and Risk for Psychosis (Mittal, P.I.)

NIMH R01 7/01/2011 – 6/30/2016 \$351,574

This project is designed to investigate adolescents at high risk for developing psychotic disorders to determine if brain development in the frontal subcortical circuit system, linking frontal and subcortical brain regions contributes to developing psychosis.

CDI-Type II: A Community of Brain Imaging Data: A Collaborative Neuroinformatics Blueprint

National Science Foundation 9/01/2011 – 8/31/2015 \$87,919

This project is about developing a neuroinformatics infrastructure for multi-site neuroimaging projects.

C. Completed Grant Support (total direct support over the life of the project)

a. As Principal Investigator

"Brain Mapping and Genetics of Executive Function in ADHD"		
NIMH	6/1/04-5/31/10	\$1.5 million
"Culpability Study"		
MacArthur Foundation	7/1/03-12/31/07	\$250,000
"Leveraging human generalization abilities for optimal learning"		
NSF	10/1/06-9/30/08	\$125,000
"Attentional capacity: Modulation by cerebral dynamics",		
NIMH	3/1/97-2/28/01,	\$241,240
"The neurological bases of disorders in attention"		
Univ. of Illinois Arnold O. Beckman Research Award	1/1/94—12/31/94	\$13,591
"Examination and implications of the sequencing deficit in frontal lobe dysfunction",		
VA Hines-Univ. of Ill. Satellite Rehab. Research Prog.,	1/1/91-12/31/91,	\$9535
"Apple Seedling Grant (equipment)		
University of Illinois,	1989	\$4156
"Transfer of memory information between the cerebral hemispheres"		
Univ. of Illinois, NIH Biomedical Research Support Grant	1/1/88-12/31/88,	\$4552
"Interhemispheric communication and mood"		
Univ. of Illinois, NIH Biomedical Research Support Grant	1/1/87-12/31/87	\$6000
"Factors governing interhemispheric interaction in humans"		
Univ. of Illinois, Arnold O. Beckman Research Award,	1/1/86-12/31/86,	\$32,000
"Interhemispheric interaction in children"		
Univ. of Illinois, NIH Biomedical Research Support Grant,	1/1/86-5/31/86	\$6672

b. As Co-Principal Investigator or Co-Investigator

NIDA P.I. subcontract, (T. Crowley, P.I.) "Substance Dependent Adolescents: Imaging Risk-Taking" 09/05/06-04/30/11 \$150,000

NIDA P.I. subcontract, (L. Steinberg, P.I.) "Peer Effects on Neural and Behavioral Markers of Risk-Taking" 09/30/06 – 8/31/09 \$400,000

NIDDK P.I. subcontract, (M. Cornier, P.I.) "The Effects of Energy Imbalance on Food Intake Behavior" 3/1/2007-2/28/2012 \$45,000

NIAAA, Co-I. (Kent Hutchison, P.I.) "Alcohol Dependence: Integrating Genetic & fMRI Methods, 7/1/05-6/30/00, \$1.7 million.

Harvard Medical School, Division on Addictions, Co-I. (Jody Tanabe, P.I.) "Functional MRI of decision-making in substance abuse and pathological gambling", 8/1/03-8/1/05, \$100,000

NIMH, Co-P.I. (Tiffany Ito, P.I.) "Conflict monitoring and the control of of prejudice", 9/15/02 – 8/31/04, \$250,000

NIH, Co-I. & member of advisory board (M. Reite, P.I.), "Whole-head MEG system for brain research", 7/1/2002-6/30/2003, \$2 million

NIDA, Co-I., (Gregory Miller, P.I.) "Neurocognitive mechanisms: Appetitive and Aversive Emotion", 6/30/01-6/29/04, \$375,000

Dept. of the Navy-SPAWAR Systems Center Co-investigator, co-I (Robert Freedman, P.I.) "University of Colorado Brain Imaging Center for Drug Abuse Research" Direct Costs: 3/1/01-2/28/03, \$4,102,320,

NIMH, Co-I. (Wendy Heller, P.I.) "Mechanisms of attentional bias in psychopathology", 4/1/00-3/31/03, \$800,557

NSF, Co-I. (R. Magin, P.I.) "Pilot grant for the development of a high-field fMRI facility for interdisciplinary human brain studies" 1/6/96-1/5/97, \$50,000

NIA Co-I. (E. McAuley, P.I.), "Exercise, aging, and psychological function", \$498,714

Critical Research Initiative, University of Illinois, co-P.I. (Neal Cohen, co-P.I.) "Brain mechanisms in language, memory, perceptual and emotional functions: Cognitive neuroscience exploration of the temporal lobes in patients with epilepsy", \$99,000

IBM Shared University Research program, co-P.I. "Computational analysis of the neurological underpinnings of attention and memory", 1/1/93-12/31/93 \$50,723

FAA, Co-P.I., (A. Stokes, P.I.) Cognitive function evaluation in medical certification of airmen: Part B", 1/1/88-12/31/89, \$48,430

FAA., Co-I. (A. Stokes, P.I.), "Cognitive function evaluation in medical certification of airmen", 1/1/87-12/1/87, \$22,511

Teaching & Mentoring:

A. Undergraduate Classes: Cognitive Neuroscience

B. Graduate Seminars: Functional Magnetic Resonance Imaging in Cognitive Neuroscience, Executive Function, Higher Order Vision and Attention, Language, Higher Order Cognition

C. Committee Chair for Doctoral Dissertations: (Current position)

Neal Stolar, M.D., Ph.D. (1992) (Clinical Associate Professor, Dept. of Psychiatry University of Pennsylvania)

“The association of symptoms in schizophrenia and dysfunction of specific brain regions

Aysenil Belger, Ph.D. (1993) (Professor and Director of Neuroimaging Research, Dept. of Psychiatry, University of North Carolina, Chapel Hill)

“Influences of hemispheric specialization and interaction on task performance”

Erika Noll, Ph.D. (1996) (Oracle Corporation)

“Target detection in left and right hemispace”

Joel Shenker, Ph.D. (1997) (Private Medical Practice Neurology, Columbia, MO)

“Neurology of attention: Interhemispheric processing provides unique, dynamic, and cognitively-sensitive neural resources in the Stroop task”

Alessandra Passarotti, Ph.D.(1999) (Asst. Professor, Dept. of Psychiatry, University of Illinois – Chicago)

“Insulation of processes across the hemispheres modulates attentional processes”

Daniel Weissman , Ph.D. (1999) (Asst. Professor, Dept. of Psychology, University of Michigan)

“The cerebral hemispheres cooperate to perform complex but not simple tasks”

Kevin Spencer, Ph.D. (1999) (Asst Professor, Dept. of Psychiatry, Harvard Medical School)

“Hemispheric mechanisms of visuospatial selective attention”

Michael Milham, M.D., Ph.D. (2002) (Associate Director, Phyllis Green and Randolph Cowen Institute for Pediatric Neuroscience, Dept. of Psychiatry, New York University)

“An fMRI analysis of dorsoalteral prefrontal cortex’s involvement in attentional control”

Eric Claus, Ph.D. (2008) (Research Associate, Mind Research Network, Albuquerque, NM)

“Understanding the Neural and Cognitive Mechanisms of Decision Making in Alcohol Dependence”

Anson Whitmer (2009) (Post-doctoral Fellow, Dept. of Psychology, Stanford Univ.)
“The Cognitive and Neural Mechanisms of Rumination”

Brendan Depue (2009) (Post-doctoral Fellow, University of Colorado-Boulder)
“Controlled Memory Suppression: Evidence from Behavioral and Neuroimaging
Paradigms and Clinical Populations”

Amanda Hutchinson (2010) (Post-doctoral Fellow, Flinders University, Australia)
“Interhemispheric Processing in individuals with Attention Deficit Hyperactivity
Disorder”

D. Current Graduate Students

Alejandro DeLaVega (Cognitive Program), Roselinde Hendersen (Clinical Program),
Kirsten Mackiewicz Seghete (Clinical Program), Andrew Reineberg (Cognitive Program)

E. Former Post-doctoral Advisees (Current Position)

Ruth Ann Atchley (1998-1999) (Assoc. Professor & Dept. Chair, Dept. of Psychology,
University of Kansas)

Rebecca Compton (1997-1999) (Assoc. Professor, Dept. of Psychology, Haverford
College)

Xun Liu (2000-2002) (Chief, Cognitive and Developmental Psychology Division, Institute
of Psychology Chinese Academy of Sciences)

F. Current Post-doctoral Advisees

Gregory Burgess (2006-present), Brendan Depue (2009-present), Joseph Dagher (2009 –
present), Jessica Andrews-Hanna (2010 – present), Detre Godinez (2010- present)

Service:

A. Reviewing

a. Granting Agencies

National Institute of Mental Health, National Institute of Drug Abuse, National Science
Foundation, Israel Science Foundation, Natural Sciences and Engineering Research
Council of Canada, Netherlands National Initiative Brain and Cognition, Rockefeller
Foundation

b. Journals

Section Editor: *Neuropsychologia* (Executive Function & Cognitive Control)
Editorial Board: *Laterality*,

Ad hoc: Brain & Cognition, Cerebral Cortex, Cognition and Emotion, Cognitive Affective and Behavioral Neuroscience, Cognitive Brain Research, Cortex, Current Trends in Psychological Science, Developmental Neuropsychology, Developmental Psychology, Experimental Brain Research, Journal of Experimental Psychology: General, Journal of Experimental Psychology: Human Perception and Performance, Journal of the International Neuropsychological Society, Journal of Neuroscience, Neuropsychology, Psychological Science, Vision Research

B. University Service

Member, Research Computing/Cyberinfrastructure Committee (2010-present)
 Member, East Campus Planning Committee
 Member, Clinical Search Committee (2007-2010)
 Member, Special Opportunity Faculty Hiring Committee 2008-2009
 Member, Program Review task force University of Colorado Boulder 2005-2006
 Chair, Faculty Search Committee, Institute of Cognitive Science, 2005 & 2006
 Director, Institute of Cognitive Science 2004-present
 Executive Committee of the Institute for Cognitive Science 2003-2004
 Chair, Cognitive Program, Dept. of Psychology 2003-2004
 Member, Executive Committee, Dept. of Psychology 2000-2001
 Chair, Institutional Review Board for the Protection of Human Subjects, 1996-1998
 Chair, Miller Committee, (for planning campus-wide colloquia), 1994-1998
 Member, Search Committee for the Head of the Department of Psychology, 1995
 Member, Miller Committee, Center for Advanced Study, 1991-1994
 Member, Equal Employment Opportunity Committee, College of Liberal Arts and Sciences, 1994-1995
 Member, Program Advisory Committee, The Beckman Institute 1994-1997
 Advisory Board, Program on Women, Information Technology and Scholarship, Center for Advanced Study, 1991-1994
 Member, Institutional Review Board for the Protection of Human Subjects, 1991-1994
 Member, Search Committee for the Director of the Beckman Institute, 1992-1993

Talks and Presentations (past 5 years)

“The Development of Executive Functions During Adolescence: Behavioral and Neuroimaging Evidence”
 University of Colorado at Denver, Feb 29, 2011
 “The Development of Cognitive Control during Adolescence”
 International Society for Behavioural Neuroscience Meeting, June 3rd, 2010,
 Collioure, France
 "Neural Mechanisms Involved in the Cognitive Control of Information in Working Memory"
 International Society for Behavioural Neuroscience Meeting, June 2nd, 2010,
 Collioure, France
 “The Inhibition of Previous Task Sets: The Neural Correlates (poster)

Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain,
June 10th, 2010

"Adolescent Development and the Juvenile Justice System"

Rocky Mountain Psychological Association, April 16th, 2010, Denver, Colorado

"ADHD and Executive Function",

Denver University, April 9th, 2010

"New Frontiers in Understanding Mind and Brain: Examples to Engage Students"

National Institute for the Teaching of Psychology, St. Pete Beach Florida, Jan 4, 2010

"Are Adolescents Less Mature than Adults? Cognitive Ability vs. Psychosocial
Development"

Café Scientifique, Denver, Colorado, Dec. 15th, 2009

"Neural Underpinnings of Attentional Dysfunction in Young Adults with ADHD"

University of Texas, Dallas, December 7, 2009,

"What WERE you thinking???? What We Know about the Adolescent Brain and How
That Influences the Way Teens Think."

Science Café, Fort Collins, Colorado, Oct. 14th, 2009

"Beckman Institute: Building Bridges across Researchers and Disciplines to Affect the
World"

University of Illinois at Urbana-Champaign, Oct. 6th, 2009

"Neural Systems for Executive Control"

University of Colorado – Health Sciences, Sept. 24th, 2009,

"How Culpable are Adolescents for Their Behavior?"

NICHHD Summer Institute in Applied Research, Washington, D.C., June 25th, 2009,

"Executive Control over Information in Memory"

University of Michigan, April 15, 2009

"Executive Function in Individuals with ADHD: Translational Research"

University of Michigan, April 14, 2009

"The Adolescent Mind and Brain: Implications for the Law"

Annual Meeting of the American Psychology-Law Society, San Antonio, TX, March
5th, 2009

"Using Cognitive Neuroscience to Understand Mental Illness"

Part of a symposium on Mental Health in the 21st Century, August 22nd, 2008,
University of Colorado at Boulder

"ADHD in Young Adults: Neural Underpinnings and Their Relationship to Symptoms"

University of Trento, Italy, June 24, 2008

"What is executive function? Neural, psychological and computational perspectives"

University of Trento, Italy, June 17, 2008

"Suppression of Emotional Thoughts: Evidence from fMRI and Implications for
Psychiatry"

SUNY Stony Brook, April 29th, 2008

"Adolescent Culpability: Evidence from Science"

Suffolk University Law School, April 10, 2008

"Clinical applications of fMRI"

Osepedale Borgo Trento, Verona Italy, Nov. 21, 2007

- "The Interface between Attention, Emotion and the Prefrontal Cortex"
University of Trento, Rovereto Italy, November 19, 2007
- "Risk and Reward in Adolescent Decision-making"
National Academy of Sciences, Washington, D.C., November, 14, 2007
- "The Use of Brain Imaging: Techniques to Enhance Our Understanding of Brain Injury"
Brain Injury Association of Colorado, October 5, 2007, Vail, Colorado,
- "Brain Imaging: New Tools to Learn about Brain Function, Behavior & Feelings"
Given Institute, Aspen, Colorado, August 16, 2007
- "The Interface between Attention, Emotion and the Prefrontal Cortex"
University of Padua, June 6, 2007
- "Cognitive, Social, and Executive Functioning in Adolescents and Young Adults"
Santa Lucia Hospital, Rome Italy, May 22, 2007
- "The Interface between Attention, Emotion and the Prefrontal Cortex"
Italian Neuropsychological Society, Bologna, May, 19th, 2007
- "The Interface between Attention, Emotion and the Prefrontal Cortex"
University of Milan, May 15, 2007
- "The Interface between Attention, Emotion and the Prefrontal Cortex"
Oxford University, May 7, 2007
- "Interhemispheric Interaction and Attention",
University of Verona, April 25, 2007
- "Cognitive, Social, and Executive Functioning in Adolescents and Young Adults"
University of Verona, March 22, 2007
- "The Interface between Attention, Emotion and the Prefrontal Cortex"
University of Verona, Feb. 21, 2007
- "Insights into the Stroop Effect provided by Neuroimaging"
American Psychological Association, New Orleans, August 11th, 2006