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## **EDUCATION**

### Post Graduate

1992-1994 UCLA School of Medicine, Los Angeles, CA  
Research Fellow in Neurobehavior  
1989-1992 Boston University, Boston, MA  
Resident, Clinical Neurology  
1988-1989 Georgetown University/VAMC, Washington, D.C.  
Internship (Medicine)

### Medical

1988 George Washington University, Washington, D.C.  
Degree in Medicine

### Graduate

2003 Ph.D. in Neuroscience, UCLA, Los Angeles, CA

### Undergraduate

1984 University of California, Santa Barbara, CA  
B.S. Physiological Psychology / B.A. Philosophy

## **RESEARCH EXPERIENCE**

2008-present Investigation of a community based sample of individuals with subjective cognitive decline for bio-markers of Alzheimer's disease.  
2002 - 2008 Consultant in functional and structural neuroimaging research for Neural Net Research and the Laboratory of Neuro Imaging Department of Neurology, University of California, Los Angeles, CA.  
1994-2002 Neuroimaging mapping of structure and function in health and disease. Arthur W. Toga, PhD and John C. Mazziotta, MD PhD, Department of Neurology, University of California, Los Angeles, CA.  
1992-2002 Investigation of human cognitive and behavioral abnormalities. D. Frank Benson, MD and Jeffrey L. Cummings, MD Department of Neurology, University of California, Los Angeles, CA.  
1991-1992 Lesion localization in language and cognitive disorders. Michael P. Alexander, MD Department of Neurology, Boston University, Boston, MA.  
1983-1984 Analysis of brain 5-HT Metabolites in tyrosine dietary deficient rats. Loy Lytle, PhD, Department of Psychopharmacology, University of California, Santa Barbara, CA.

## **CLINICAL POSITIONS**

- 2015-present Director, Center for Cognitive Health, Portland OR.  
2004-2015 Director, Cognitive Assessment Clinic, Brain Institute, Providence Health System, Portland OR.  
2002-2003 Functional and Structural Imaging Investigator Pacific Health Research Institute, Honolulu, HI.  
1999-2002 Director, Imaging sub-core Alzheimer's Disease Research Center, UCLA School of Medicine, Los Angeles, CA.  
1997-2002 Assistant Professor in Neurology - UCLA School of Medicine, Los Angeles, CA.  
1996-2002 Director, Memory Disorders and Alzheimer's Disease Clinic, UCLA School of Medicine, Los Angeles, CA.  
1992-1997 Clinical Instructor in Neurology - UCLA School of Medicine, Los Angeles, CA.

## **MEDICAL LICENSURE**

State of Massachusetts Medical Licensure  
September 1990 (No. 73543), inactive

State of California Medical Licensure  
September 1992-2006 (No. GO75911)

State of Oregon Medical Licensure  
April 1993 (No. MD18185)

Board Certified, American Board of Psychiatry and Neurology  
January 1997 (43527) renewed 2009.

## **AWARDS and HONORS**

- 2005 Examiner, American Academy of Neurology Residency Exams  
2001 Harold Brenner Pepinsky Early Career Award (Ohio State University)  
1997-2002 NIA K08 Clinical Scientist Development Award  
1994-1995 UCLA Alzheimer's Disease Center Research Grant  
1994 Ralph Goldman Research Award  
1983 Elected to write Honors Thesis in Philosophy by faculty

## **Clinical Trials**

- 2015 PI, Phase III Biogen BIIB037 Treatment in MCI  
2015 PI, Phase III TransTech 488 Treatment in mild AD  
2014 PI, Phase III EVP-6124 Treatment in mild AD

2014 PI, Phase III MK-8931 Treatment in MCI  
2010 PI, Phase IIIb Exelon Patch Treatment in severe AD  
2010 PI, Phase II BMS Gama-secretase Inhibitor in MCI  
2009 PI, Phase III Pfizer A-Beta Monoclonal Antibody Treatment in AD  
2007 PI, Phase III Elan A-Beta Monoclonal Antibody Treatment in AD  
2007 PI, Phase IIIb Exelon Patch (CENA713D2340) Treatment in AD  
2003 PI, Phase IIIb FDG-PET Effects from Galantamine Treatment in AD  
2002 PI, Phase III FDG-PET Effects from Metrifonate Treatment in AD

## **JOURNAL/GRANT REVIEWER**

Biomarkers in Medicine  
Neurology  
NeuroImage  
Lancet (Neurology)  
NIH Study Section 1998  
Alzheimer's Association  
Oregon Partnership for Alzheimer's Research  
American Foundation for Aging Research

## **SOCIETY MEMBERSHIPS**

American Academy of Neurology  
Behavioral Neurology Society  
American Neuropsychiatric Association

## **ORIGINAL ARTICLES**

1. **Mega MS**. Akinetic Mutism. Encyclopedia of Clinical Neuropsychology (in press).
2. **Mega MS**. The Cingulate. Encyclopedia of Clinical Neuropsychology (in press).
3. Dinov ID, Boscardin JW, **Mega MS**, Sowell EL, Toga AW. A Wavelet-Based Statistical Analysis of fMRI data: I. Motivation and Data Distribution Modeling. *Neuroinformatics* 2005;3(4):319-342.
4. **Mega MS**, Dinov ID, Mazziotta JC, Manese M, Thompson PM, Lindshield C, Moussai J, Tran N, Olsen K, Felix J, Zoumalan CI, Woods RP, Toga AW. Automated Brain Tissue Assessment in the Elderly and Demented Population: Construction and Validation of a Sub-Volume Probabilistic Brain Atlas. *NeuroImage* 2005; 26: 1009-1018.
5. **Mega MS**, Dinov ID, Porter V, Chow G, Reback E, Davoodi P, O'Connor SM, Carter MF, Felix J, Amezcua H, Cummings JL. Metabolic Patterns Associated with

the Clinical Response to Galantamine Therapy: An FDG-PET Study. *Arch Neurol* 2005; 62: 721-728.

6. Senanarong, V, Cummings JL, Fairbanks L, **Mega MS**, Masterman M, O'Connor SM, Strickland TL. Agitation in Alzheimer's Disease Is a Manifestation of Frontal Lobe Dysfunction. *Dement Geriatr Cogn Disord* 2004; 17: 14-20.
7. Fuh J-L, **Mega MS**, Binetti G, Wang S-J, Magni E, Cummings JL. A transcultural study of agitation in dementia: environmental influences and associated behaviours. *J Geriatr Psychiat Neurol*. 2002; 15: 171-174.
8. **Mega MS**, Small GW, Xu ML, Felix J, Ercoli LM, Bookheimer SY, Toga AW. Hippocampal atrophy in persons with mild cognitive impairment. *Psychosomatic Medicine*. 2002; 64: 487-492.
9. Kumar A, Thomas A, Lavretsky H, Yue K, Huda A, Curran J, Venkatraman T, Estanol L, Mintz J, **Mega MS**, Toga A. Frontal white matter biochemical abnormalities in late-life major depression detected with proton magnetic resonance spectroscopy. *Am J Psychiatry* 2002; 159: 630-636.
10. Dinov ID, **Mega MS**, Thompson PM, Woods RP, Sumners DWL, Sowell EL, Toga AW. Quantitative Comparison and Analysis of Image Registration Using Frequency-Adaptive Wavelet Shrinkage. *IEEE Trans. Information Technology in Biomedicine*. 2002; 6: 73-85.
11. **Mega MS**. Differential diagnosis of dementia: clinical examination and laboratory assessment. *Clin Cornerstone*. 2001; 3: 1-14.
12. Toga AW, Thompson PM, **Mega MS**, Narr, KL, Blanton RE. Probabilistic approaches for atlas normal and disease-specific brain variability. *Anatomy and Embryology*. 2001; 204: 267-282.
13. **Mega MS**. The entorhinal cortex in Alzheimer's disease. *J Neurol Neurosurg Psychiatry*. 2001; 71: 431-432
14. Fuh J-L, Liu C-K, **Mega MS**, Wang S-J, Cummings JL. Behavioral disorders and caregivers' reaction in Taiwanese patients with Alzheimer's disease. *International Psychogeriatrics* 2001; 13: 121-128.
15. Hirono N, **Mega MS**, Dinov ID, Mishkin F, Cummings JL. Neuroimaging correlates of aggressive behavior in dementia patients. *Research and Practice In Alzheimer's Disease*. 2001; 5: 27-32.

16. Tekin S, **Mega MS**, Masterman MD, Chow T, Vinters H, Cummings JL. Orbitofrontal and anterior cingulate NFT burden is associated with agitation in Alzheimer's disease. *Ann Neurol* 2001; 49(3):355-361.
17. Paulsen JS, Ready RE, Hamilton JM, **Mega MS**, Cummings JL. Neuropsychiatric aspects of Huntington's disease. *J Neurol Neurosurg Psychiatry*. 2001; 71: 310-314.
18. **Mega MS**, Cummings JL, Dinov ID, Felix J, O'Connor SM, Reback EM, Masterman MD, Phelps ME, Small GW, Toga AW. Cognitive and metabolic responses to metrifonate therapy in Alzheimer's disease. *Neuropsychiatry Neuropsychol Behav Neurol* 2001; 14(1):63-68.
19. Thompson PM, **Mega MS**, Woods RP, Zoumalan CI, Lindshield CJ, Blanton RE, Moussai J, Holmes CJ, Cummings JL, Toga AW. Cortical change in Alzheimer's disease detected with a disease-specific population-based brain atlas. *Cerebral Cortex* 2001; 11(1):1-16.
20. Thompson PM, **Mega MS**, Toga AW. Disease-specific probabilistic brain atlases. *IEEE Proc. of the International Conference on Computer Vision and Pattern Recognition, and Workshop on Mathematical Methods in Biomedical Image Analysis*. 2000, 237-234.
21. Small GW, Ercoli LM, Silverman DHS, Huang S-C, Komo S, Bookheimer SY, Lavretsky H, Miller K, Siddarth P, Rasgon NL, Mazziotta JC, Saxena S, Wu HM, **Mega MS**, Cummings JL, Saunders AM, Pericak-Vance MA, Roses AD, Barrio JR, Phelps ME. Cerebral metabolic and cognitive decline in persons at genetic risk for Alzheimer's disease. *PNAS* 2000; 97(11): 6037-6042.
22. Hirono N, **Mega MS**, Dinov ID, Mishkin F, Cummings JL. Left frontotemporal hypoperfusion is associated with aggression in patients with dementia. *Arch Neurol* 2000; 57:861-866.
23. **Mega MS**, Dinov ID, Lee L, O'Connor SM, Masterman DM, Wilen B, Mishkin FS, Toga AW, Cummings JL. Orbital and dorsolateral frontal perfusion defects associated with behavioral response to cholinesterase inhibitor therapy in Alzheimer's disease. *J Neuropsychiatry Clin Neurosci* 2000; 12:209-218.
24. **Mega MS**, Lee L, Dinov ID, Mishkin F, Toga AW, Cummings JL. Cerebral correlates of psychotic symptoms in Alzheimer's disease. *J Neurol Neurosurg Psychiatry* 2000; 69:167-171.
25. **Mega, MS**. The cholinergic deficit in Alzheimer's disease: impact on cognition, behaviour and function. *The International Journal of Neuropsychopharmacology* 2000; 3:3-12.

26. Dinov ID, **Mega MS**, Thompson PM, Lee L, Woods RP, Holmes CJ, Summers DWL, Toga AW. Analyzing functional brain images in a probabilistic atlas: A validation of sub-volume thresholding. *J Comp Asst Tomo* 2000; 24(1):128-138.
27. Thompson PM, Woods RP, **Mega MS**, Toga AW. Mathematical/Computational Challenges in Creating Deformable and Probabilistic Atlases of the Human Brain. *Human Brain Mapping* 2000; 9:81-92.
28. **Mega MS**, Masterman DM, O'Connor SM, Barclay TR, Burzynski MJ, Cummings JL. The spectrum of behavioral responses with cholinesterase inhibitor therapy in Alzheimer's disease. *Arch Neurol* 1999; 56:1388-1393.
29. **Mega MS**, Chu T, Mazziotta JC, Trivedi KH, Thompson PM, Shah AK, Aron J, Frautschy SA, Cole G, Toga AW. Mapping biochemistry to metabolism: FDG-PET and amyloid burden in Alzheimer's disease. *NeuroReport* 1999; 10:2911-2917.
30. **Mega MS**. D. Frank Benson's quest for a better view: The neuroimaging of neurobehavior. *Aphasiology* 1999; 13(1):41-53.
31. Litvan I, Cummings JL, **Mega MS**. Neuropsychiatric features of corticobasal degeneration. *J Neurol Neurosurg Psychiatry* 1998; 65:717-721.
32. Litvan I, Paulsen JS, **Mega MS**, Cummings JL. Neuropsychiatric assessment of patients with hyperkinetic and hypokinetic movement disorders. *Arch Neurol* 1998; 55:1313-1319.
33. Thompson PM, Moussai J, Zohoori S, Goldkorn A, Khan AA, **Mega MS**, Small GW, Cummings JL, Toga AW. Cortical variability and asymmetry in normal aging and Alzheimer's disease. *Cerebral Cortex* 1998; 8:492-509.
34. Binetti G, **Mega MS**, Magni E, Padovani A, Rozzini L, Bianchetti A, Trabucchi M, Cummings JL. Behavioral disorders in Alzheimer disease: a transcultural perspective. *Arch Neurol* 1998; 55:539-544.
35. **Mega MS**, Thompson PM, Cummings JL, Back CL, Xu LQ, Zohoori S, Goldkorn A, Moussai J, Fairbanks L, Small GW, Toga AW. Sulcal variability in the Alzheimer's brain: correlations with cognition. *Neurology* 1998; 50:145-151.
36. **Mega MS**, Cohenour R. Akinetic mutism: disconnection of frontal-subcortical circuits. *Neurology, Neuropsychology, and Behavioral Neurology* 1997; 10:254-259.
37. Thompson PM, MacDonald D, **Mega MS**, Holmes CJ, Evans AC, Toga AW. Detection and mapping of abnormal brain structure with a probabilistic atlas of cortical surfaces. *J Comp Asst Tomogr* 1997; 21:567-581.

38. **Mega MS**, Cummings JL, Salloway S, Malloy P. The limbic system: an anatomic, phylogenetic, and clinical perspective. *Neuropsychiatry Clin Neurosci* 1997; 9:315-330.
39. **Mega MS**, Chen SS, Thompson PM, Woods RP, Karaca TJ, Tiwari A, Vinters HV, Small GW, Toga AW. Mapping histology to metabolism: coregistration of stained whole brain sections to premortem PET using 3D cryomacrotome reconstruction as a reference. *NeuroImage* 1997; 5:147-153.
40. Cummings JL, **Mega MS**. Alzheimer's disease: Pathophysiology and treatment. *ConsultPharm* 1996; 11 (suppl E):8-15.
41. Yang J, Huang SC, **Mega MS**, Lin KP, Toga AW, Small GW, Phelps ME. Investigation of partial volume correction methods for brain FDG-PET studies. *IEEE Transactions on Nuclear Science* 1996; 43:3322-3327.
42. **Mega MS**, Masterman DL, Benson DF, Vinters HV, Tomiyasu U, Craig AH, Foti DJ, Kaufer DI, Scharre DW, Fairbanks LA, Cummings JL. Dementia with Lewy bodies: reliability and validity of clinical and pathologic criteria. *Neurology* 1996; 47:1403-1409.
43. Litvan I, **Mega MS**, Cummings JL, Fairbanks L. Neuropsychiatric aspects of progressive supranuclear palsy. *Neurology* 1996; 47:1184-1189.
44. **Mega MS**, Cummings JL, Fiorello T, Gornbein J. The spectrum of behavioral changes in Alzheimer's disease. *Neurology* 1995; 46:130-135.
45. Geschwind DH, Iacoboni M, **Mega MS**, Zaidel DW, Cloughesy T, Zaidel E. The alien hand syndrome: interhemispheric motor disconnection due to a lesion in the midbody of the corpus callosum. *Neurology* 1995; 45:802-808.
46. Cummings JL, **Mega MS**, Grey K, Rosenberg-Thompson S, Carusi DA, Gornbein J. The neuropsychiatric inventory: comprehensive assessment of psychopathology in dementia. *Neurology* 1994; 44:2308-2314.
47. **Mega MS**, Cummings JL. Frontal subcortical circuits and neuropsychiatric disorders. *J Neuropsychiatry Clin Neurosci* 1994; 6:358-370.
48. **Mega MS**, Alexander MP. Subcortical aphasia: the core profile of capsulostriatal infarcts. *Neurology* 1994; 44:1824-1829.

## BOOKS

1. Cummings JL, **Mega MS**. Neuropsychiatry and Behavioral Neuroscience. Oxford Press, New York; 2003.

## BOOK CHAPTERS

1. Toga AW, **Mega MS**, Thompson PM. Neuroimaging Alzheimer's disease. In: Esiri, MM, Lee VM-Y, Trojanowski JQ eds. The Neuropathology of Dementia 2<sup>nd</sup> edition. Cambridge University Press, Cambridge; 128-160, 2004.
2. **Mega MS**. Memory Disorders. In: D'Esposito, M, ed. Neurological Foundations of Cognitive Neuroscience. MIT Press, Boston; 41-66, 2003.
3. **Mega MS**. Neuroimaging in Dementia: now and in the future. in American Academy of Neurology Syllabus for the annual meeting, 2002: Denver CO.
4. Thompson PM, **Mega MS**, Vidal C, Rapoport JL, Toga AW. Detecting disease-specific patterns of brain structure using cortical pattern matching and a population-based probabilistic brain atlas. IEEE Conference on Information Processing in Medical Imaging, Davis, CA. In: Lecture notes in computer science 2082 (Insana M, Leahy R, eds), Springer, New York: 488-501, 2001.
5. **Mega MS**. The Orbitofrontal Cortex: Connectional Neuroanatomy. In: Bellodi L, & Cavallaro R, eds. The Basal-Cortical Function In Obsessive Compulsive Disorder Spectrum. Pacini Editore, Pisa; 19-35, 2000.
6. **Mega MS**, Cummings JL. Frontal-subcortical circuits: anatomy and function. In: Salloway S, ed. Neuropsychiatry and the Basal Ganglia. Oxford Univ. Press; 15-32, 2000
7. Thompson PM, **Mega MS**, Narr KL, Sowell ER, Blanton RE, Toga AW. Brain Image Analysis and Atlas Construction. In: Fitzpatrick M, ed. SPIE Handbook on Medical Image Analysis. Society of Photo-Optical Instrumentation and Engineers (SPIE) Press; 4-76, 2000.
8. Thompson PM, **Mega MS**, Toga AW. Disease-specific brain atlases. In: Mazziotta JC, Toga AW, Frackowiak R, eds. Brain Mapping: The Disorders. San Diego: Academic Press; 131-177, 2000.
9. **Mega MS**, Thompson PM, Toga AW, Cummings JL. Neuroimaging in Dementia. In: Mazziotta JC, Toga AW, Frackowiak R, eds. Brain Mapping: The Disorders. San Diego: Academic Press; 217-293, 2000.
10. **Mega MS**, Alexander MP, Cummings JL, Benson DF. The Aphasias. In: Joynt, RJ, ed. Baker's Clinical Neurology. Philadelphia: Lippincott.
11. **Mega MS**. Neuropsychiatry in Dementia. in American Academy of Neurology Syllabus for the annual meeting, 1999: Toronto Canada.



12. **Mega MS**, Cummings JL, Salloway S, Malloy P. The limbic system: an anatomic, phylogenetic, and clinical perspective. In: Salloway S, Malloy P, Cummings JL, eds. The Neuropsychiatry of Limbic and Subcortical Disorders. Washington, DC: American Psychiatric Press, Inc., 1997.
13. **Mega MS**, Cummings JL. The cingulate and cingulate syndromes. In: Cummings JL, Trimble MR, ed. Contemporary Behavioral Neurology. Boston: Butterworth Heinemann, 1996.
14. **Mega MS**, Cummings JL. Dementia. in Psychiatric Care in the Nursing Home. Reichman WE, ed. Oxford Univ. Press 1996.
15. Cummings JL, **Mega MS**. Anatomy of frontal-subcortical circuits. in American Academy of Neurology Syllabus for the annual meeting, 1995: Seattle WA.
16. **Mega MS**, Ween JE, Albert ML. Higher visual functions. in Current Neuro-ophthalmology, Lessell S and Van Dalen J, eds. Vol. 3, St. Louis: Mosby, 1991.

#### ABSTRACTS

1. **Mega MS**, Dinov ID, Mazziotta JC, Manese M, Thompson PM, Lindshield C, Moussai J, Tran N, Olsen K, Felix J, Zoumalan CI, Woods RP, Toga AW. Automated Brain Tissue Assessment in the Elderly and Demented Population: Construction and Validation of a Sub-Volume Probabilistic Brain Atlas. *The 9th International Conference on Alzheimer's Disease and Related Disorders 2004 Philadelphia*.
2. **Mega MS**, Dinov ID, Porter V, Chow G, Reback E, Davoodi P, O'Connor SM, Carter MF, Felix J, Amezcua H, Cummings JL, Toga AW. Metabolic Patterns Associated with the Clinical Response to Galantamine Therapy: An FDG-PET Study. *The 9th International Conference on Alzheimer's Disease and Related Disorders 2004 Philadelphia*.
3. **Mega MS**, Dinov ID, Porter V, Chow G, Reback E, Davoodi P, O'Connor SM, Carter MF, Felix J, Amezcua H, Cummings JL, Toga AW. Metabolic Patterns Associated with the Clinical Response to Galantamine Therapy: An FDG-PET Study. *Neurology* 2004; 59.
4. **Mega MS**, Dinov ID. Functional imaging assessment of cholinesterase inhibitor therapy in Alzheimer's disease: HMPAO-SPECT and FDG-PET within a probabilistic atlas. *The AAGP 2003 Toronto, Canada*.
5. **Mega MS**, Dinov ID. Neuroimaging in Vascular Dementia. *The Vascular Dementia Conference 2003 Prague, Czech Republic*.

6. **Mega MS**, Dinov ID, Dailey J, Manese MP, Felix J, Tran NP, Toga AW, Cummings JC. Functional imaging assessment of cholinesterase inhibitor therapy in Alzheimer's disease: HMPAO-SPECT and FDG-PET within a probabilistic atlas. *The 8th International Conference on Alzheimer's Disease and Related Disorders 2002* Stockholm, Sweden.
7. **Mega MS**, Tran NP, Dailey J, Dinov ID, Thompson PM, Felix J, Toga AW. The hippocampus in aging and dementia: Quantitative, linear, volumetric & 3D morphological mapping using a probabilistic Alzheimer's brain atlas. *The 8th International Conference on Alzheimer's Disease and Related Disorders 2002* Stockholm, Sweden.
8. **Mega MS**, Manese MP, Felix J, et al. Anterior cingulate activation occurs across cholinesterase inhibitor therapy in Alzheimer's disease. *Int Psychogeriatr* 2001; 13(suppl 2):OS 6-2.
9. Dinov ID, **Mega MS** & Toga AW. Wavelet Analysis of Image Registration, *Abstracts of Papers Presented to the American Mathematical Society 2001*; Vol. 21(3): 956-974.
10. Thompson PM, Zubizaray G, Janke AL, Rose SE, **Mega MS**, Semple J, Hong MS, Cummings JL, Doddrell DM, Toga AW. Detecting Dynamic (4D) Profiles of Degenerative Rates in Alzheimer's Disease Patients, Using High-Resolution Tensor Mapping and a Brain Atlas Encoding Atrophic Rates in a Population. *Neurology* 2001; 56:A264
11. Dinov ID, **Mega MS**, Manese M, Felix J, Tran N, Lindshield C, Cummings JL, Toga AW. Construction of the First Rest-State Functional Sub-Volume Probabilistic Atlas of Normal Variability in the Elderly and Demented Brain. *Neurology* 2001; 56:A248
12. Manese M, **Mega MS**, Tran N, Felix J, Cummings JL, Toga AW. Linear Measures of Temporal Lobe Regions in Aging and Dementia: Reliability and Validity Based upon High Resolution Hippocampal Volumetry. *Neurology* 2001; 56:A263
13. Crabtree EC, **Mega MS**, Linshield CJ, Dinov ID, Thompson PM, Felix J, Fennema CN, Archibald SL, Jernigan TL, Cummings JL, Toga AW. Alzheimer grey matter loss across time: unbiased assessment using a probabilistic Alzheimer brain atlas. *Soc for Neurosci Abs* 2000, 26:294.
14. Thompson PM, **Mega MS**, Cummings JL, Toga AW. Detecting dynamic (4D) profiles of degenerative rates in Alzheimer's disease patients, using tensor mapping and a population-based brain atlas. *Soc for Neurosci Abs* 2000, 26:294.
15. Tekin S, **Mega MS**, Masterman DM, Chow T, Garakian J, Vinters H, Cummings JL. Orbital frontal and anterior cingulate cortex neurofibrillary tangle burden is associated with agitation in Alzheimer's disease. *Ann Neurology* 2000; 48(3):461.

16. **Mega MS**, Thompson PM, Cummings JL, Toga AW. The UCLA Alzheimer's disease atlas project: Structural and functional applications. *Ann Neurology* 2000; 48(3):427.
17. **Mega MS**, Cummings JL, Masterman DM, Dinov ID, Felix J, O'Connor SM, Toga AW. Metabolic responses to donepezil therapy in Alzheimer's disease. *Neurology* 2000; 54:A416.
18. Thompson PM, **Mega MS**, Woods RP, Zoumalan CL, Lindshield CJ, Blanton RE, Moussai J, Holmes CJ, Dinov ID, Cummings JL, Toga AW. Early cortical change in Alzheimer's disease detected with disease-specific, population-based, probabilistic brain atlas. *Neurology* 2000; 54:A475.
19. **Mega MS**, Lindshield C, Leung M, Dinov ID, Thompson PM, Felix J, Fennema CN, Archibald SL, Jernigan TL, Toga AW. Application of a sub-volume probabilistic human brain atlas for the elderly and demented populations: Automated mapping of regional grey matter loss. *NeuroImage* 2000; 11(5):S178
20. **Mega MS**, Fennema CN, Dinov ID, Thompson PM, Archibald SL, Lindshield C, Felix J, Toga AW, Jernigan TL. Construction, testing, and validation of a sub-volume probabilistic human brain atlas for the elderly and demented populations *NeuroImage* 2000; 11(5): S597
21. Small GS, Ercoli LM, Huang SC, Komo S, Bookheimer SY, Saxena S, Silverman DH, **Mega MS**, Mazziotta JC, Wu HM, Cummings JL, Phelps ME. PET and genetic risk for Alzheimer's disease. *J Nuclear Medicine* 1999; 40(5): 70P.
22. **Mega MS**, Thompson PM, Woods RP, Dinov ID, Zoumalan CI, Cummings JL, Mazziotta JC, Collins RC, Toga AW. Functional imaging analysis within an Alzheimer's disease atlas: cortical variability maps of anatomic and PET registration errors. *Soc for Neurosci Abs* 1999, 25:14.
23. Thompson PM, **Mega MS**, Woods RP, Blanton RE, Moussai J, Zoumalan CI, Cummings JL, MacDonald D, Evans AC, Toga AW. (1999). Detecting 3D patterns of Alzheimer's disease pathology with a disease-specific, population-based probabilistic brain atlas. *Soc for Neurosci Abs* 1999, 25:1801
24. Thompson PM, **Mega MS**, Woods RP, Blanton RE, Moussai J, Zoumalan CI, Aron J, Cummings JL, Toga AW. A probabilistic atlas of the human brain in Alzheimer's disease emerging patterns of variability, asymmetry and degeneration. *NeuroImage* 1999; 9(6):S597
25. Holmes CJ, **Mega MS**, Toga AW. An Elderly Target for Automatic MRI Registration. *NeuroImage* 1999; 9(6):S185

26. **Mega MS**, Dinov ID, Lindshield CJ, Thompson PM, Toga AW. Differences between raw and partial volume corrected analyses of PET data using sub-volume thresholding in a probabilistic ROI atlas. *NeuroImage* 1999; 9(6):S184
27. Dinov ID, Woods RP, Thompson PM, Summers DW L, **Mega MS**, Sowell ER, Toga AW. Quantitative comparison and analysis of stereotactic image registration wavelet based frequency adaptive warp ranking. *NeuroImage* 1999; 9(6):S141
28. Lindshield CJ, **Mega MS**, Narr KL, Moussai J, Dinov ID, Sowell ER, Thompson PM, Woods RP, Sharma T, Toga AW. Age related frontal grey matter loss: volumetric tissue analysis in a probabilistic atlas using high order nonlinear registration. *NeuroImage* 1999; 9(6):S102.
29. Felix J, **Mega MS**, Dinov ID, Toga AW, Cummings JL. Perfusion defects in the parietal cortex and dorsolateral caudate bilaterally are associated with depressed mood in Alzheimer's disease patients: A <sup>99m</sup>Tc-HMPAO SPECT analysis. *NeuroImage* 1999; 9(6):S670.
30. **Mega MS**, Felix J, Dinov ID, McPherson SM, Cummings JL, Toga AW. Anterior cingulate and frontal polar hypoperfusion is associated with declines in verbal fluency in older persons with mild cognitive impairment: A <sup>99m</sup>Tc-HMPAO SPECT study. *NeuroImage* 1999; 9(6):S350.
31. Shah AK, **Mega MS**, Trivedi KH, Lindshield CJ, Duhaylongsod LM, Dooley JR, Thompson PM, Sterling L, Yu J, Leung M, Saedi G, Zoumalan CI, Nguyen A, Toga AW. A population based digital atlas of the Alzheimer's brain integrating functional, histological, and biochemical data. *NeuroImage* 1999; 9(6):S586.
32. Sanchez MC, **Mega MS**, Trivedi KH, Shah AK, Sterling L, Yu J, Leung M, Toga AW. Microscopic assessment of a 3-dimensional brain volume. *NeuroImage* 1999; 9(6):S585
33. Kwong EM, **Mega MS**, Thompson PM, Xu ML, Ercoli LM, Cummings JL, Small GS, Felix J, Toga AW. Three dimensional hippocampal maps in normal aging, older persons with mild cognitive impairment and patients with Alzheimer's disease. *Neurology* 1999; 52:A570-A571.
34. Zoumalan CI, **Mega MS**, Thompson PM, Grigoriadis A, Nguyen A, Toga AW. Three-dimensional sulcal deformations of the brain in aging and dementia are related to cognitive performance. *NeuroImage* 1999; 9(6):S602.
35. Zoumalan CI, **Mega MS**, Thompson PM, Fuh J-L, Lindshield C, Toga AW. Mapping 3D cortical variability in normal aging and Alzheimer's disease. *Neurology* 1999; 52:A369.

36. Dinov ID, **Mega MS**, Lee L, Willen B, Mishkin F, Toga AW. The effects of education on brain perfusion in Alzheimer's disease. *Neurology* 1999; 52:A367.
37. Thompson PM, **Mega MS**, Woods RP, Blanton RE, Moussai J, Zoumalan CI, Dinov ID, Cummings JC, MacDonald D, Evans AC, Toga AW. Detecting 3D patterns of Alzheimer's disease pathology with a probabilistic brain atlas based on continuum mechanics. *Neurology* 1999; 52:A570-571.
38. **Mega MS**, Cummings JL, Dinov ID, Masterman DM, Felix J, O'Connor SM, Reback ER, Toga AW. Metrifonate clinical benefits are correlated with activation of specific neuronal networks. *Neurology* 1999; 52:S14.
39. Woods RP, **Mega MS**, Thompson PM. Use of automated polynomial warping to create a magnetic resonance imaging atlas specific for the study of Alzheimer's disease. *Annals of Neurology* 1998; 44(3):449.
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