

## CURRICULUM VITAE

### **SHASHWATH A. MEDA**

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**DATE OF BIRTH:** August 17, 1982

**PLACE OF BIRTH:** Chennai (Madras), India

#### EDUCATION

2003-2005 Wayne State University, Michigan, USA (M.S. in Biomedical Engineering)

1999-2003 Madurai Kamaraj University, India (B.E. in Electrical Electronics Engineering)

**Masters Thesis:** DTI, SWI and fMRI as potential biomarkers for severity of traumatic brain injury.

#### CAREER

2007-Present Research Fellow/ Senior Clinical Data Analyst, Olin Neuropsychiatry Research Center, Hartford Hospital/IOL, Hartford CT.

2006-2007 Senior Research Assistant, Olin Neuropsychiatry Research Center, Hartford Hospital/IOL, Hartford CT.

2004-2006 Graduate Research Assistant – WSU MR Research Facility, Harper University Hospital, Detroit, Michigan

2003-2004 Student Assistant – MRI Institute, Detroit, Michigan

2002-2003 Trainee – Apollo Super Specialty Hospital, India

## **TECHNICAL INTERNSHIPS**

- 2002                    Biomedical Instrumentation, Sri Ramachandra Medical College and Research Institute, Chennai, India
- 2002                    Industrial Electronics internship, OZONE Electronics, Chennai, India
- 2001                    Medium Voltage and Relay Assembly Plant, ALSTOM Inc., India

## **RESEARCH GRANTS**

- 2007-2009            Harford Hospital New Investigator Grant (***Principal Investigator***) “Characterizing the Dyslexia Phenotype using Genetics and MR Morphology”

## **AWARDS AND HONORS**

- 2008                    Junior Investigator Award – ICANA
- 2007                    Scholarship and Travel Award – SSIG
- 2004-2006            Graduate Research Assistantship, Biomedical Engineering, WSU
- 2002                    Best Technical Presentation, GCT Chapter IEEE, India

## **FULL LENGTH PUBLICATIONS**

**Meda S.A.**, Stevens M.C., Potenza M.D., Pittman B., Gueorguieva R., Andrews M.M., Thomas A.D., Muska C., Hylton J.L & Pearlson G.D. (2009) Investigating the Behavioral and Self-Report Constructs of Impulsivity Domains using Principal Component Analysis. *Behavioral Pharmacology-In Press*

Allen, A. J., **Meda, S. A.**, Skudlarski, P., Calhoun, V. D., Astur, R. S., Ruopp, K., & Pearlson, G. D. (2009) Effects of alcohol on performance on a distraction task during simulated driving. *Alcohol Clin Exp Research*, 33(4):617-25.

**Meda, S. A.**, Bhattarai, M., Morris, N. A., Astur, R. S., Calhoun, V. D., Mathalon, D. H., Kiehl, K. A., & Pearlson G. D. (2008). An fMRI study of working memory in first-degree unaffected relatives of schizophrenia patients. *Schizophr Res*, 104(1-3), 85-95.

**Meda, S. A.**, Calhoun, V. D., Astur, R. S., Turner, B. M., Ruopp, K., & Pearlson, G. D. (2008). Alcohol dose effects on brain circuits during simulated driving: An fMRI study. *Hum Brain Mapp.*, 30(4): 1257-70.

**Meda, S. A.**, Giuliani, N. R., Calhoun, V. D., Jagannathan, K., Schretlen, D. J., Pulver, A., Cascella, N., Keshavan, M., Kates, W., Buchanan, R., Sharma, T., & Pearlson, G. D. (2008). A large scale (N=400) investigation of gray matter differences in schizophrenia using optimized voxel-based morphometry. *Schizophr Res*, 101(1-3), 95-105.

**Meda, S.A.**, Gelernter, G., Gruen, J.G., Calhoun, V. D., Meng, H., Cope, N.A & Pearlson, G. D (2008). Polymorphism of DCDC2 reveals differences in cortical morphology of healthy individuals. *Brain Imaging and Behav*, 2, 21-26.

Skelly, L. R., Calhoun, V., **Meda, S. A.**, Kim, J., Mathalon, D. H., & Pearlson, G. D. (2008). Diffusion tensor imaging in schizophrenia: relationship to symptoms. *Schizophr Res*, 98(1-3), 157-162.

Benson, R. R., **Meda, S. A.**, Vasudevan, S., Kou, Z., Govindarajan, K. A., Hanks, R. A., Mills, S. R., Makki, M., Latif, Z., Coplin, W., Meythaler, J., & Haacke, E. M. (2007). Global white matter analysis of diffusion tensor images is predictive of injury severity in traumatic brain injury. *J Neurotrauma*, 24(3), 446-459.

**Meda, S. A.**, Stevens, M. C., Folley, B. S., Calhoun, & Pearlson, G. D. Evidence for anomalous network connectivity during working memory in schizophrenia (Under Review – *Schizophrenia Research*)

Parker, B. A., Thompson, P. D., Ruopp, K. C., **Meda, S. A.**, Grimaldi, A. S., & Pearlson, G. D. Exercise training alters hippocampal activity and function in humans (Under Review – *Medicine and science in sports and exercise*)

Andrews M.M., **Meda S.A.**, Thomas A.D., Potenza M.D., Krystal J.H., Worhunsky P., Stevens M.C., O' Malley S., Book G., & Pearlson G.D. Individuals Family History Positive for Alcoholism Show fMRI Abnormalities in Reward Sensitivity, Related to Impulsivity Factors (Under Review – *Archives of General Psychiatry*)

Rzepecki C.I., **Meda S.A.**, Calhoun V.D., Stevens M.C., Jafri M.J., Astur R.S., & Pearlson G.D. Disruptions in Functional Neural Connectivity During Drunk Driving. (Under Review – *Alcohol Clinical Experimental Research*)

Lui S., Li T., Deng W., Jiang L., Wu Q., Tang H., Yue Q., Wei Y., Huang X., Collier D.A., **Meda S.A.**, Pearlson G.D., Mechelli A., Sweeney J.A., & Gong Q. Short-term effect of antipsychotic treatment on cerebral function in drug-naïve first episode schizophrenia revealed by rfMRI at 3T. (Under Review – *Nature Neuroscience*)

Parker, B. A., Thompson, P. D., Ruopp, K. C., **Meda, S. A.**, Grimaldi, A. S., & Pearlson, G. D. Changes in memory function and neuronal activation associated with atorvastatin therapy (Under Review – *Pharmacotherapy*)

**Meda, S. A.**, Jagannathan K., Gelernter, J., Calhoun V.D., Liu J., Stevens, M. C., & Pearlson, G. D. A pilot multivariate parallel ICA study to investigate differential linkage between neural networks and genetic profiles in schizophrenia (Under Review – *Neuroimage*)

### **Manuscripts (In Preparation)**

Turner, B. A., Stevens M.C., **Meda, S. A.**, Jordan, K., Calhoun, V. D & Pearlson, G. D. Functional imaging of cognitive control during acute alcohol intoxication.

Thomas A.D., Hylton J.L., **Meda S.A.**, Andrews M.M., Stevens M.C. & Pearlson G.D. Anticipation of Rewards: Activation differences in current and former cocaine users using a monetary incentive delay task.

Gordon R.J., **Meda S.A.** & Pearlson G.D., Structural Changes in Depression in a Community-Based Sample and Comparison to a Comorbidity Sample.

Deckel W., Gelernter J., Assaf M., Calhoun V.D., **Meda S.A.**, Groth K.M., Stevens M.C., & Pearlson G.D. An Alpha7 Nicotinic Cholinergic Receptor (CHRNA7) Polymorphism Discriminates Figural Memory Abilities and Related Brain Structural and Functional MRI patterns in Healthy Adults.

### **PEER-REVIEWED ABSTRACT PUBLICATIONS (\* Presenting Author)**

\***Meda S.A.**, Rzepecki C.I., Calhoun V.D., Jafri M.J., Pearlson G.D. (2009) Identifying network disruptions among resting-state components in schizophrenia and their unaffected first-degree relatives. Proceedings of the 64<sup>th</sup> Annual Convention of the Society of Biological Psychiatry.

Turner B.M., **Meda S.A.**, Jordan K., Stevens M.C., Pearlson G.D. (2009) Pharmacological manipulations of “resting state” brain function using alcohol and marijuana. Proceedings of the 15<sup>th</sup> Annual Meeting of the Organization of Human Brain Mapping.

Rzepecki C.I., **Meda S.A.**, Calhoun V.D., Jafri M.J., Astur R.S., Pearlson G.D. (2009) Disruptions in functional neural connectivity during intoxicated driving Proceedings of the 15<sup>th</sup> Annual Meeting of the Organization of Human Brain Mapping.

Kerestes R., Ladouceur C., **Meda S.A.**, Blumberg H., Maloney K., Ruf B., Saricicek A., Hu J., Pearlson G.D., Bhagwagar Z., Philips M. (2009) A novel paradigm for examining the interfering effects of emotional distracters during a working memory task: a functional magnetic resonance (fMRI) study. Proceedings of the 15<sup>th</sup> Annual Meeting of the Organization of Human Brain Mapping.

Jagannathan K., Calhoun V.D., Liu J., **Meda S.A.**, Pearlson G.D. (2009) Combining sMRI and SNP data to investigate genetic influences on brain structure using parallel ICA in healthy controls & schizophrenia. Proceedings of the 15<sup>th</sup> Annual Meeting of the Organization of Human Brain Mapping.

\***Meda S.A.**, Liu J., Gelernter J.G., Calhoun V.D., Pearlson G.D. (2009) A novel parallel ICA approach to investigate differential linkage between brain function and genetic profiles in a cohort of control and schizophrenia patients. Proceedings of the Fifth International Imaging Genetics conference.

\***Meda S.A.**, Powers N., Gruen J.R., Calhoun V.D., Hager K., Hosono S., Liu J., Jagannathan K., Pearlson G.D. (2009) Investigating differential correlations between fMRI and language-associated genes using parallel ICA, in healthy controls and schizophrenia. Proceedings of the 12<sup>th</sup> International Congress on Schizophrenia Research.

\***Meda S.A.**, Calhoun V.D., Pearlson G.D. (2008) Diffusion tensor analysis in schizophrenia and first-degree relatives. Proceedings of the 63<sup>rd</sup> Annual Convention of the Society of Biological Psychiatry.

\***Meda S.A.**, Folley B.S., Stevens M.C., Calhoun V.D., Pearlson G.D. (2008) Evidence for anomalous network connectivity during working memory in schizophrenia: An ICA based analysis. Proceedings of the 63<sup>rd</sup> Annual Convention of the Society of Biological Psychiatry.

\***Meda S.A.**, Folley B.S., Stevens M.C., Calhoun V.D., Pearlson G.D. (2008) An investigation of working memory cortical networks using independent component analysis. Proceedings of the 15<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society.

Skudlarski P., **Meda S.A.**, Calhoun V.D., Pearlson G.D. (2008) Effect of alcohol on resting state correlations. Proceedings of the 14<sup>th</sup> Annual Meeting of the Organization of Human Brain Mapping.

Hylton J.L., Thomas A.D., **Meda S.A.**, Andrews M.M., Stevens M.C., Pearlson G.D. (2008) Abnormal reward circuitry in cocaine abusers: An fMRI study. Proceedings of the 15<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society.

Winicki J.M., **Meda S.A.**, Gordon B., Pearlson G.D., Schretlen D.J. (2008) Abnormal neuropsychological performance by healthy adults does not correlate with gray matter abnormalities on brain imaging. Proceedings of American Academy of Clinical Neuropsychology.

Schretlen D.J., Winicki J.M., Vannorsdall T.D., **Meda S.A.**, Pearlson G.D., Gordon B. (2008) Voxel-based Morphometric analysis of Iowa gambling task performance

in healthy adults. Proceedings of the 36<sup>th</sup> Annual Meeting of the International Neuropsychological Society.

\***Meda S.A.**, Calhoun V.D., Astur R.S., Turner B.M., Ruopp K., Cuadra B., Pearlson G.D. (2008) Alcohol dose effects on brain circuits during simulated driving: An fMRI study. Proceedings of the 2<sup>nd</sup> International Conference on Applications of Neuroimaging in Alcoholism.

Andrews M.M., **Meda S.A.**, Book G., Hylton J.L., Thomas A.D., Potenza M., Worhunsky P., Stevens M.C., Pearlson G.D. (2008) Differences in reward circuit activation in people with a family history of alcoholism. Proceedings of the 2<sup>nd</sup> International Conference on Applications of Neuroimaging in Alcoholism.

Allen, A. J., **Meda, S. A.**, Skudlarski, P., Calhoun, V. D., Astur, R. S., Ruopp, K., & Pearlson, G. D. (2008) Effects of alcohol on performance on a distraction task during simulated driving. Proceedings of the 2<sup>nd</sup> International Conference on Applications of Neuroimaging in Alcoholism & Cognitive Neuroscience Society.

Thomas A.D., Hylton J.L., **Meda S.A.**, Andrews M.M., Stevens M.C., Pearlson G.D. (2008) Anticipation of Rewards: Activation differences in current and former cocaine users using a monetary incentive delay task. Proceedings of the 2<sup>nd</sup> International Conference on Applications of Neuroimaging in Alcoholism, Cognitive Neuroscience Society & American College of Neuropsychopharmacology.

\***Meda, S.A.**, Gelernter, G., Gruen, J.G., Calhoun, V. D., Meng, H., Cope, N.A & Pearlson, G.D. (2007). Polymorphic deletion in DCDC2 affects brain morphology in healthy adults – A voxel based Morphometric study. Proceedings of the 14<sup>th</sup> Scientific Meeting of the International society of Magnetic Resonance Imaging.

\***Meda S.A.**, Calhoun V.D., Pearlson G.D. (2007) Investigating alcohol dosage effects on brain circuits during simulated driving: An fMRI based study. Proceedings of the 13<sup>th</sup> Annual Meeting of the Organization of Human Brain Mapping.

Pearlson, G. D., **Meda, S. A.**, Giuliani, N. R., Calhoun, V. D., Pulver, A., Schretlen, D. J., Cascella, N., Keshavan, M., Kates, W., Buchanan, R., & Sharma, T. (2007). A large scale (N=400) investigation of gray matter differences in schizophrenia using optimized voxel-based morphometry. Proceedings of the 10<sup>th</sup> International Congress on Schizophrenia Research.

\***Meda S.A.**, Deckel W., Assaf M., Calhoun V.D., Giuliani N., Groth K.M., Stevens M.C., Gelernter J., Pearlson G.D. (2006) An Alpha7 Nicotinic Cholinergic Receptor (CHRNA7) Polymorphism Influences Figural Memory Abilities and Related Brain Structure and Function in Healthy Adults. Proceedings of the Fifth Annual Meeting of the Society of Molecular Imaging.

**Meda S.A.**, Kou Z., Govindarajan K., Hanks R., Meythaler J., Mills S., Latif Z., Makki M., Coplin W., Haacke E.M., Benson R.R. (2006) Diffusion Tensor MRI of white matter correlates with traumatic brain injury severity. Proceedings of the Eighth International Neurotrauma Society.

\***Meda S.A.**, Govindarajan K., Hanks R., Meythaler J., Mills S., Latif Z., Makki M., Coplin W., Haacke E.M., Benson R.R. (2006) Whole brain FA histogram analysis for improved detection of DAI. Proceedings of the 13<sup>th</sup> Scientific Meeting of the International society of Magnetic Resonance Imaging.

Govindarajan K., **Meda S.A.**, Latif Z., Haacke E.M., Benson R.R. (2006) Reliability of language paradigms in fMRI for pre-operative mapping. Proceedings of the 13<sup>th</sup> Scientific Meeting of the International society of Magnetic Resonance Imaging.

\***Meda S.A.**, Govindarajan K., Latif Z., Haacke E.M., Benson R.R. (2005) Localization of eloquent cortex using functional MRI. Proceedings of Wayne State University Graduate student research day.

## **TALKS/PRESENTATIONS**

- 2006 “The Brain on Drugs: Effects of Cocaine/Alcohol on the reward circuit” – Olin Center scientific presentation.
- 2005 “FA histogram analysis for improved DAI detection” – MR Image Retreat, Detroit, Michigan.
- 2005 “Introduction to data processing techniques in fMRI” – Department of Radiology, WSU School of Medicine, Detroit, Michigan.
- 2005 “Introduction to Susceptibility Weighted Imaging” – Department of Audiology and Speech-Language Pathology, WSU, Detroit, Michigan.
- 2005 “Effects of caffeine on fMRI BOLD signal” – Department of Bioengineering, WSU, Detroit, Michigan.
- 2005 “Introduction to MR physics and fMRI processing techniques” – WSU MR Research Facility Annual Meeting.
- 2004 “Language dominance determined by whole brain functional MRI in patients with brain lesions” – WSU MR Research Facility Annual Meeting.

## **JOURNAL PEER REVIEW**

- 2009 Neuroscience Letters  
Schizophrenia Bulletin
- 2008 Neuroimage  
Neuroradiology  
Biological Psychiatry  
Medical Science Monitor  
Psychiatric Research: Neuroimaging

## **PROFESSIONAL MEMBERSHIPS**

- 2009- International Congress of Schizophrenia Research
- 2008- Society of Biological Psychiatry
- 2008- Cognitive Neuroscience Society
- 2007-2008 Organization of Human Brain Mapping
- 2006-2007 Society of Molecular Imaging
- 2004-2005 International Society of Magnetic Resonance in Imaging

## **CONTINUING EDUCATION**

- 2007-2009 International Imaging Genetics Conference (UC Irvine, CA)
- 2007 12<sup>th</sup> Annual Summer Institute in Statistics and Genetics (Seattle, WA)
- 2007 The Adobe Photoshop Users Conference (Hartford, CT)
- 2006 Olin fMRI course (Hartford, CT)
- 2004 Statistical and Mathematical Modeling of fMRI Data (Ohio State University)

## **MISCELLANEOUS BIO-ENGINEERING PROJECTS**

- 2004 Design and Application of Inverse, Wiener Filters to Reduce Motion Deblurring (Matlab)

- 2004 Local and Global Histogram Equalization (Matlab)
- 2003 DSP based ECG Signal Analyzer
- 2002 RTD based Automated Anesthesia Controller