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MIDWEST REGIONAL EPILEPSY ASSOCIATES

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EDUCATION

B.S., BIOCHEMISTRY <i>University of Nebraska-Lincoln</i>	1993-1997 <i>Lincoln, NE</i>
M.D. <i>University of Nebraska Medical Center</i>	1997-2001 <i>Omaha, NE</i>
Preliminary year- Internal Medicine <i>Iowa Methodist Medical Center</i>	2001-2002 <i>Des Moines, IA</i>
Neurology Residency <i>University of Iowa Hospitals and Clinics</i>	2002-2005 <i>Iowa City, IA</i>
Fellowship- Clinical Neurophysiology <i>New York University</i>	2005-2006 <i>New York, NY</i>
Research Fellowship- Epilepsy <i>New York University</i>	2006-2007 <i>New York, NY</i>

PROFESSIONAL EXPERIENCE

Assistant Professor- Department of Neurological Sciences <i>University of Nebraska Medical Center</i>	2007-2009 <i>Omaha, NE</i>
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GRANTS/FELLOWSHIPS

University of Iowa Collaborative Interdisciplinary Projects (co-PI)

1/2004-1/2005, **\$24,650**

The utilization of Event Related Potentials (ERP) in the measurements of attention and error related processing in the context of antiepileptic drug use, patients with previously existing brain lesions, and intracranial depth electrodes

Research and Training Fellowship for Clinicians, Epilepsy Foundation of America

7/2006-7/2007, **\$50,000**

A Novel Method to Predict and Analyze Seizure Propagation Using Convolutional Neural Networks

PEER-REVIEWED PUBLICATIONS

Mirowski P, **Madhavan D**, LeCun Y, Kuzniecky R. Classification of Patterns of EEG synchronization for Seizure Prediction. (in press, *Clinical Neurophysiology*)

Bishu S, **Madhavan D**, Perez P, Civitello L, Liu, S, Fessler M, Holland S, Jain A, Pao M. X-linked Hyper-IgM Syndrome (CD40L Deficiency): Long-Term Neurologic Sequelae with Radiographic Correlation. (in press, *Pediatric Neurology*)

Madhavan D, Mirowski P, Ludvig N, Carlson C, Doyle WK, Devinsky O, Kuzniecky R. Effects of subdural application of lidocaine in patients with focal epilepsy. *Epilepsy Research* 2008; **78**(2-3): 235-239

Madhavan D, Weiner HL, Carlson C, Devinsky O, Kuzniecky R. Local Epileptogenic Networks in Tuberous Sclerosis: A Case Review. *Epilepsy and Behavior* 2007; **11**: 140-146

Madhavan D, Schaffer S, Yankovsky A, Arzimanoglou A, Renaldo F, Zaroff CM, Lajoie J, Weiner H, Andermann E, Andermann F, Dubeau F, Olivier A, Franz D, Leonard J, Connolly M, Cascino G, Devinsky O. Surgical Outcome in Tuberous Sclerosis Complex: A multicenter survey. *Epilepsia* 2007; **48**(8): 1625-1628

Zaroff C, Carlson C, Barr W, Lajoie J, Miles D, Nass R, **Madhavan D**, Devinsky O. Mental Retardation and Relation to Seizure and Tuber Burden in Tuberous Sclerosis Complex. *Seizure* 2006; **15**(7): 558-562

Zelivianski S, Dean J, **Madhavan D**, Lin FF, Lin MF. Expression of receptor protein tyrosine phosphatase agr; mRNA in human prostate cancer cell lines. *Molecular and Cellular Biochemistry* 2000; **208**(1): 11-18

REVIEW ARTICLES/INVITED PUBLICATIONS

Murr N, Murman D, **Madhavan D**. Creutzfeldt-Jakob Disease Presenting as Truncal Titubation. (in press, *Reviews in Neurological Disease*)

Nearing K, **Madhavan D**, Devinsky O. Temporal Lobe Epilepsy: A Progressive Disorder? *Reviews in Neurological Disease* 2007; **4**(3): 122-127

Madhavan D, Kuzniecky R. Temporal lobe surgery in patients with normal MRI. *Current Opinion in Neurology* 2007; **20**(2): 203-207

Madhavan D, Liebman T, Nadkarni S, Devinsky O. Anterior Cingulate Epilepsy in an 18-Year-Old Woman. *Reviews in Neurological Disease* 2007; **4**(1): 39-42

Madhavan D, Kuzniecky, R. Lafora Disease. *Reviews in Neurological Disease* 2006; **3**(3): 131-135

Book Chapters

Madhavan D, Kuzniecky R. The Imaging Evaluation of Epilepsy. Textbook of Stereotactic and Functional Neurosurgery, 2nd Edition. Lozano AM, Gildenberg PL, Tasker RR (Eds.) Springer, 2008

Madhavan D, Martin CO. Neurology. The University of Iowa Family Medicine Handbook, 5th Edition, Graber MA, Jones JL, Wilbur JK (Eds). Saunders Elsevier, 2006

ABSTRACTS

Aizenberg MR, White M, Podariu S, Wilson T, **Madhavan D**. Reliability of Functional Mapping Techniques for Pre-Operative Planning. 6th Annual World Congress for Brain Mapping and Image Guided Therapy, 2009

Mirowski P, **Madhavan D**, LeCun Y, Kuzniecky R. Comparing SVM and Convolutional Networks for Epileptic Seizure Prediction from Intracranial EEG. IEEE International Workshop on Machine Learning for Signal Processing, 2008

Mirowski P, **Madhavan D**, LeCun Y, Kuzniecky R. Seizure Prediction Using Machine Learning on Bivariate Features from EEG. American Epilepsy Society Annual Meeting, 2008

Madhavan D, Mirowski P, Ludvig N, Carlson C, Devinsky O, Doyle W, Kuzniecky R. Effects of the subdural application of lidocaine on EEG spiking in patients with focal epilepsy. American Epilepsy Society Annual Meeting, 2007

Mirowski P, **Madhavan D**, LeCun Y, Kuzniecky R. Analysis of Ictal Dynamics Using Generative Neural Networks. American Epilepsy Society Annual Meeting, 2007

Mirowski PW, **Madhavan D**, LeCun Y. Time Delay Neural Networks and Independent Component Analysis for EEG-Based Prediction of Epileptic Seizure Propagation. Association for the Advancement of Artificial Intelligence, 2007.

Madhavan D, Mirowski P, Weiner HL, Devinsky O, Kuzniecky R. Characterization of Epileptogenic Networks in Tuberous Sclerosis Using Independent Component Analysis. American Academy of Neurology, 2007.

Madhavan D, Mirowski P, Schaffer S, LeCun Y, Kuzniecky R. Prediction and Analysis of Ictal Dynamics Using Computational Neural Networks. North American Regional Epilepsy Congress, 2006.

Madhavan D, Zaroff CM, Arzimanoglou A, Renaldo F, Lajoie J, Weiner H, Andermann E, Andermann F, Dubeau F, Olivier A, Yankovsky A, Franz D, Leonard J, Connolly M, Cascino G, Devinsky O. Surgical Outcome in Tuberous Sclerosis Complex: A multicenter survey. North American Regional Epilepsy Congress, 2006.

Dennhardt JL, **Madhavan D**, St Louis EK, Luck SJ. Error Related Negativity is Increased in Huntington Disease. American Academy of Neurology, 2005.

PATENTS

Mirowski P, LeCun Y, **Madhavan D**, Kuzniecky R. "A Method for Classifying Ictal States in a Subject". US Provisional Patent Publication, filed June 2008.