

## CURRICULUM VITAE

Houston, June 2007

### Personal data:

First Name: Eduardo

Family name: Martinez Castillo

713-7041501 (MEG-lab)

713-7977575 (Office)

### Basic Education:

**1998** Ph.D. in Psychology (Neurosciences). Complutense University of Madrid. Spain.  
Dissertation title: "Neurofunctional study of Alzheimer's disease".

**1990-1995** B.S. degree in Psychology. Complutense University of Madrid. Spain.

### Research and professional experience:

**2007-Present** Assistant professor. Center for Clinical Neurosciences. Department of Pediatrics. University of Texas-Houston. Cross appointed with Department of Neurology and Department of Neurosurgery.

**2002-2007** Assistant Professor. Department of Neurosurgery, Division of Clinical Neurosciences. Medical School. University of Houston-Texas. USA.

**2001-2002** Instructor. Department of Neurosurgery, Division of Clinical Neurosciences. Medical School. University of Houston-Texas. USA.

**2000-2001** Post-doctoral Fellowship. Department of Neurosurgery, Division of Clinical Neurosciences. Medical School. University of Houston-Texas. USA.

**1995-1998** Clinical Neuropsychologist. Hospital Clínico San Carlos and Asociación Española de ayuda al epiléptico. Supervisor: Dra. María del Carmen Díaz Obregón.

### **Hospital appointments**

1) Presurgical mapping of somatosensory, motor, and language-specific cortex using Magnetic Source Imaging (2001-present). Hermann Hospital, Medical Center. Houston, Texas.

2) Presurgical localization of epileptogenic foci using Magnetic Source Imaging (2001-present). Division of Clinical Neurosciences, University of Texas-Houston, and Hermann-Memorial Hospital. Hermann Hospital, Medical Center. Houston, Texas.

### **Memberships in Scientific Societies:**

American Epilepsy Society

International Neuropsychological Society

Society for Neuroscience

Asociación Española de Cirugía de la Epilepsia

### **Committee responsibilities:**

Faculty interviewer. The University of Texas-Houston, Medical School, 6431 Fannin Street, Houston, Texas 77030. Academic years: 2003-present.

### **Teaching:**

2004-present: Teacher in the Neurology Residency Program. University of Texas-Houston.

2004-Present: "Methods in Cognitive Neuroscience". Lectures, Neuroscience Graduate Program; Rice University, Houston, Texas.

2003-Present. Course "cognition and neurophysiology". Graduate program. UT-H.

### **Ad-Hoc Reviewer**

Per-review Magazines: Neurology, Neurocase, Epilepsia, Neuroreport, Biological psychiatry, Neuroimage, Journal of Clinical Neurophysiology, Journal of Neurology, Neurosurgery, and Psychiatry.

Grant review: NIH/NIAMS

**Honors/Awards:**

**1997-99** Honorific fellowship. Dept. Psychobiology School of Psychology. Complutense University of Madrid.

**2000** Research Fellowship. Complutense University Foundation.

**2003** Young investigator award. Clinical applications of MEG. Vivian Smith foundation.

**Grants:**

**Principal Investigator**, Project #3 in Program project “Functional brain reorganization in stroke recovery” National Institutes of Health PO1 NS046588-01A2.

**Co-investigator:** “Contributions of MEG to the surgical management of epilepsy”. Principal Investigator: Andrew C. Papanicolaou. HD38346-01A1

**Co-investigator:** “Brain activation profiles in Dyslexia: a MEG study”. Principal Investigator: Andrew C. Papanicolaou. HD38346-02

**Publications (Peer-Reviewed Journals)**

**Castillo**, E.M., Butler, IJ., Baumgartner, JE., Passaro A., Papanicolaou, AC. When epilepsy interferes with word comprehension: findings in Landau-Kleffner syndrome. J Child Neurology. In Press

Leon-Carrion J, McManis MH, **Castillo** EM, Papanicolaou AC. Time-locked brain activity associated with emotion: a pilot MEG study. Brain Inj. 2006 Jul;20(8):857-65.

Papanicolaou AC, Pazo-Alvarez P, **Castillo** EM, Billingsley-Marshall RL, Breier JI, Swank PR, Buchanan S, McManis M, Clear T, Passaro AD. Functional neuroimaging with MEG: normative language profiles. Neuroimage. 2006 Oct 15;33(1):326-42.

**Castillo**, EM, Boake, C, Breier, JI., Men, D., Garza, HM., Passaro A., Papanicolaou, AC. Aberrant cortical functionality associated to somatosensory deficit after stroke. J Clin Neurophysiol. In Press.

Simos, P.G., Sarkari, S., **Castillo**, E.M., Billingsley-Marshall, R., Pataraiia, E., Clear, Tr., Papanicolaou, A.C. Reproducibility of measures of neurophysiological activity in Wernicke's area: a magnetic source imaging study. *Clin Neurophysiol.* 2005 Oct;116(10):2381-91

Papanicolaou AC, **Castillo** EM, Billingsley-Marshall R, Pataraiia E, Simos PG. A review of clinical applications of magnetoencephalography. *Int Rev Neurobiol.* 2005;68:223-47.

Papanicolaou AC, Pataraiia E, Billingsley-Marshall R, **Castillo** EM, Wheless JW, Swank P, Breier JI, Sarkari S, Simos PG. Toward the substitution of invasive electroencephalography in epilepsy surgery. *Journal of Clin Neurophysiol. Clin Neurophysiol.* 2005; 22(4):231-7

Pataraiia E, Billingsley-Marshall RL, **Castillo** EM, Breier JI, Simos PG, Sarkari S, Fitzgerald M, Clear T, Papanicolaou AC. Organization of receptive language-specific cortex before and after left temporal lobectomy. *Neurology.* 2005 Feb 8;64(3):481-7.

Simos, P.G., Fletcher, J.M., Sarkari, S., Billingsley-Marshall, R.L., Francis, D.J., **Castillo**, E.M., Denton, C., & Papanicolaou, A.C. Early development of neurophysiological processes involved in normal reading and reading disability. *Neuropsychology*, 19:787-98. 2005

**Castillo**, E.M. & Papanicolaou, A.C.. Cortical representation of dermatomes: MEG-derived maps after tactile stimulation. *Neuroimage.* 2005 Apr 15;25(3):727-33.

Billingsley RL, Simos PG, **Castillo** EM, Sarkari S, Breier JI, Pataraiia E, Papanicolaou AC. Spatio-temporal cortical dynamics of phonemic and semantic fluency. *J Clin Exp Neuropsychol.* 2004 Nov;26(8):1031-43.

Papanicolaou AC, Simos PG, **Castillo** EM. MEG localization of language-specific cortex utilizing MR-FOCUSS. *Neurology.* 2005 Feb 22;64(4):765.

Joshua I. Breier, Eduardo M. **Castillo**, Panagiotis G. Simos, Rebecca L. Billingsley-Marshall, Ekaterina Pataraiia, Sharin Sarkari, James W. Wheless, Andrew C. Papanicolaou. Atypical language representation in patients with chronic seizure disorder and achievement deficits using magnetoencephalography. *Epilepsia.* 2005 Apr;46(4):540-8.

Breier, J.I., **Castillo**, E.M., Boake, C., Billingsley, R.L., Maher, L.M., Francisco, G.E., Papanicolaou, A.C. Spatiotemporal patterns of language-specific brain activity using magnetoencephalography in patients with chronic aphasia after stroke. *Neuroimage* 2004 Dec;23(4):1308-16.

Wheless, J.W., **Castillo**, E.M., Maggio, V., Kim, H.L., Breier, J.I., Simos, P.G. and Papanicolaou, A.C.. Magnetoencephalography (MEG) and Magnetic Source Imaging (MSI). *The neurologist*, 2004, 10 (3): 1-16.

Pataraiia, E., Simos, P.G., **Castillo**, E.M., Billingsley, R.L., McGregor, A. L., Breier, J.I., Sarkari, S., & Papanicolaou AC. Reorganization of language-specific cortex in patients with lesions or mesial temporal epilepsy. *Neurology*. 2004 Nov 23;63(10):1825-32.

**Castillo**, E.M., Simos, P.G., Wheless, J.W., Baumgartner, J.E., Breier, J.I., Billingsley, R.L., Sarkari, S., Fitzgerald, M.E., Papanicolaou, A.C. Integrating sensory and motor mapping in a comprehensive MEG protocol. Clinical validity and replicability. *Neuroimage*, 2004, 21(3): 973-983.

Papanicolaou, A.C., Simos, P.G., **Castillo**, E.M., Breier, J.I., Sarkari, Sh., Billingsley, R., Wheless, J.W., Maggio, V., Pataraiia, E., Clear, Tr., Maggio, W.W.. Magnetoencephalography: a non-invasive alternative to the Wada procedure. *Journal of Neurosurgery*, 2004 May;100 (5):867-76.

Pataraiia, E., Simos, P.G., **Castillo**, E.M., Billingsley, R.L., Sarkari, S., Swank, P.R., Breier, J.I., Maggio, V., Wheless, J.M., & Papanicolaou AC. Does MEG improve standard noninvasive electrophysiological methods in presurgical epilepsy evaluation? *Neurology*. 2004 Mar 23;62(6):943-8.

Rebecca L. Billingsley, Panagiotis G. Simos, Eduardo M. **Castillo**, Fernando Maestú, Shirin Sarkari, Joshua I. Breier and Andrew C. Papanicolaou. Functional brain imaging of language: criteria for scientific merit and supporting data from magnetic source imaging, *Journal of Neurolinguistics*, 2003, 16 (4-5) : 255-275

Papanicolaou AC, Simos PG, Breier JI, Fletcher JM, Foorman BR, Francis D, **Castillo** EM, Davis RN. Brain mechanisms for reading in children with and without dyslexia: a review of studies of normal development and plasticity. *Dev Neuropsychol*. 2003, 24(2-3): 593-612.

Zhang W, Simos PG, Ishibashi H, Wheless JW, **Castillo** EM, Breier JI, Baumgartner JE, Fitzgerald ME, Papanicolaou AC. Neuroimaging features of epidermal nevus syndrome. *AJNR Am J Neuroradiol*. 2003 Aug;24(7):1468-70.

Breier, J.I., Simos, P.G., Fletcher, J.M., **Castillo**, E.M., Zhang, W., & Papanicolaou, A.C., Abnormal Activation of Temporoparietal Language Areas During Phonetic Analysis in Children With Dyslexia, *Neuropsychology*, 2003, Vol. 17, No. 4, 610–621

**Castillo**, E.M. Simos, P.G., Davis, R.N., Breier, J.I., Fitzgerald, M.E., Papanicolaou, A.C.. Temporal dynamics of medial temporal lobe activation during encoding and recognition. *Neuropsychology*. 2003, 5, 2:99-120.

Papanicolaou, A.C., **Castillo**, E.M., Simos, P.G., Breier, J.I., Davis, R.N., Diehl, R.L. Differential brain activation patterns during perception of voice and tone onset time series: a MEG study. *Neuroimage* 18: 448-59. 2003.

Zhang W., Simos P.G., Ishibashi H., Wheless J.W., **Castillo**, E.M., Maggio W.W., Baumgartner, J.E., Breier, J.I., Sarkari, S., and Papanicolaou, A.C. Multimodality neuroimaging evaluation improves the detection of subtle cortical dysplasia associated epilepsy. *Neurological Research* 2003 Jan;25(1):53-7

Pablo Campo, Manuel Morales, Eduardo Martinez **Castillo**. Discrimination of normal from demented elderly on a Spanish version of the verbal selective reminding test. *J Clin Exp Neuropsychol*. 2003 Oct;25(7):991-9.

**Castillo**, E.M., Simos, P.G., Davis, R.N., Breier, J.I., Papanicolaou, A.C.. Levels of word processing and incidental memory: dissociable mechanisms in the temporal lobe. *Neuroreport* 12: 3561-3566, 2001.

Ishibashi, H., Simos, P.G., Wheless, J.W., Baumgartner, J.E., Kim, H.L., **Castillo**, E.M., Davis, R.N., and Papanicolaou, A.C. Localization of ictal and interictal bursting epileptogenic activity in focal cortical dysplasia: Agreement of Magnetoencephalography and electrocorticography. *Neurological Research*, 24(6): 525-30, 2002.

Parra Gomez J, Martinez-**Castillo** E. About rolandic discharges in childhood epilepsy: magnetoencephalographic diagnosis. *Rev Neurol* 16; 34(10):1000, 2002.

Simos, P. G., Breier, J. I., Fletcher, J. M., Foorman, B.R., **Castillo**, E. M., & Papanicolaou, A. C. Brain mechanisms for reading words and pseudowords: An integrated approach. *Cerebral Cortex*, 12(3):297-305, 2002.

Simos, P.G., Fletcher, J.M. Foorman, B.R., Francis, D.J., **Castillo**, E.M., Davis, R.N., Fitzgerald, M.E., Mathes, P.G., Denton, C., and Papanicolaou, A.C. Brain activation profiles during the early stages of reading acquisition. *Journal of Child Neurology* 17(3):159-63, 2002.

**Castillo**, E.M., Simos, P.G., Venkataraman, V., Breier, J.I., Wheless, J.W., Papanicolaou, A.C.. Mapping of expressive language using Magnetic Source Imaging. *Neurocase*, 7: 419-422. 2001

Papanicolaou, A.C., Simos, P.G., **Castillo**, E.M., Breier, J.I., & Wright, A.A. The hippocampus and memory of verbal and pictorial material. *Learning and Memory* 9(3):99-104. 2002.

Ishibashi, H., Simos, P.G., Wheless, J.W., Zhang, W., Baumgartner, J.E., **Castillo**, E.M., & Papanicolaou, A.C. Somatosensory evoked magnetic field in Hemimegalencephaly. *Neurological Research*. 24(5): 459-62. 2002.

Ishibashi, H., Simos, P.G., J.M., **Castillo**, E.M., Maggio, W.W., Wheless, J.W., Kim, H.L., Venkataraman, V., Sanders, D.K., Breier, J.I., Zhang, W., Davis, R.N., & Papanicolaou, A.C. Detection and significance of focal, interictal slow wave activity for

localization of the primary epileptogenic region using Magnetoencephalography. *Journal of Neurosurgery*, 96: 724-730. 2002

Simos PG, Papanicolaou AC., **Castillo** EM., Breier JI., Wheless JW., Maggio WW., Constantinou JE. Insights into Brain Function through Magnetic Source Imaging: A Review of Research and Clinical Applications. *Rev Neurol*. 2002 May 1; 34(9): 871-6.

Panagiotis G. Simos, Jack M. Fletcher, Eldo Bergman, Joshua I. Breier, Barbara R. Foorman, Eduardo M. **Castillo**, Robert N. Davis, Michele Fitzgerald, Andrew C Papanicolaou. Dyslexia specific brain activation profile becomes normal following successful remedial training. *Neurology* 23;58(8):1203-13. 2002.

Panagiotis G., Eduardo M. **Castillo**, Jack M. Fletcher, David J. Francis, Fernando Maestu, Joshua I. Breier, William W. Maggio, Andrew C. Papanicolaou. Mapping of Receptive Language Cortex in Bilinguals using Magnetic Source Imaging. *Journal of Neurosurgery* 95: 76-81, 2001.

Tomas Ortiz Alonso, Fernando Maestu Unturbe, Alberto Fernandez Lucas, Eduardo Martinez **Castillo**. Neural Processing to visual stimuli in to reaction time task. *Brain and Cognition*, 47: 383-96, 2001.

Andrew C. Papanicolaou, Panagiotis G. Simos, Joshua I. Breier., Jack M. Fletcher, Barbara R. Foorman, Davis Francis, Eduardo M. **Castillo**, Robert N. Davis. Brain mechanisms for reading in children with and without dyslexia: a review of studies of normal development and plasticity. *Developmental Neuropsychology*, 24: 593-612. 2003.

**Castillo**, E.M., Arrazola J., Fernandez, A., Maestu, F., Ortiz, T. Atrophy of the amigdaloid complex and neuropsychiatric expression of Alzheimer's disease. *Rev Neurol.*, 33, 5: 477- 482. 2001.

Panagiotis G. Simos, Joshua Breier, James W. Wheless, William W. Maggio, Eduardo M. **Castillo** and Andrew C. Papanicolaou. Brain mechanisms for Reading: The role of Upper Temporary Gyrus in word and pseudoword Reading. *Neuroreport* 2000, 3; 11: 2443-7, 2000.

Tomas Ortiz, Eduardo Martinez **Castillo**, Alberto Fernandez Lucas, Juan Arrazola Garcia, Fernando Maestu Unturbe, Juan Jose Lopez-Ibor. Callosal atrophy and associated electromiographic response in Alzheimer'Alzheimer disease and aging. *Electromyography and Clinical Neurophysiology*, 40, 465-475. 2000.

Maestu, F., Fernandez, A. Martinez, E., Lopez-Ibor MI, Paul, N., Calcedo Barba, A, Ortiz, T. Neuropsychic injury: neuropsychological evaluation. *Spanish Proceedings of Psychiatry*; 28:115-124, 2000.

Ortiz T., Fernández A, -Lopez-Ibor MI., Martinez E., Lopez-Ibor JJ. Inhibitory deficits in probable Alzheimer's disease: one study of movement related potentials and EMG response. *Electromyography and Clinical Neurophysiology*, 5, 39: 249-255, 2000.

Ortiz T., Lopez-Ibor MI., Martinez **Castillo** E., Fernández A, Maestú F., Lopez\_Ibor, JJ. Deficit in sensory motor Processing in depression and Alzheimer' Alzheimer disease: to study with EMG and -potentials. *Electromyography and Clinical Neurophysiology* 40:357-363, 2000.

Fernández A, Martinez **Castillo** E., Ortiz T. Bilateral activation of motor Cortex after functional recovery in capsular ictus: a case report. *Psicothema*, 3; 545-550. 1999.

**Castillo** E., Fernández A, Ortiz T. Electromiographic associated response in capsular stroke. *Rev Neurol*, June 1-15, 29: 1999.

Ortiz, T., Martinez **Castillo** E., Fernández, A., Maestu F. Neuropsychological rehabilitation in Alzheimer's disease. *Spanish proceedings of neurology, psychiatry and sciences*, 27; 2:73-82. 1999. [In Spanish].

Ortiz, T., Maestú, F., Martinez **Castillo**, E., Fernández, A. Neuropsychological evaluation in Alzheimer's disease. *Spanish proceedings of neurology, psychiatry and sciences*, 27; 2: 50-60. 1999 [In Spanish].

Ortiz T., Fernández A, Maestú F., Martinez E., Lopez-Ibor JJ. Applications of Magnetoencephalography in the study of the schizophrenia. *Spanish proceedings of neurology, psychiatry and sciences*. 27: 259-263. 1999 [In Spanish].

**Castillo** E., Fernández A, Maestú F., Ortiz T. Neuropsychology of memory: application to the study of Alzheimer's disease. *General magazine of Applied Psychology*. 31: 107-114, 1999 [In Spanish].

Ortiz T, Fernandez A, Martinez-**Castillo** E, Maestu F, Martinez-Arias R, Lopez-Ibor JJ. Psychometric validation of the telephone memory test *Actas Esp Psiquiatr*. 1999 May-Jun;27(3):155-65.

Fernández, A, Ortiz, T., Maestú, F., Martinez **Castillo**, E., Robles García F., Leon, M. Differences in evoked potentials and motor responses in subjects with high and low IQ. *Psicothema*. 10; 667-677. 1999.

Ortiz, T., Fernández, A., Martinez **Castillo**, E., Gómez Utrero, E. Associated EMG responses to voluntary hand movement in probable Alzheimer's disease. *Electromyography and Clinical Neurophysiology*. 38:195-199. 1998.

Martinez **Castillo**, E. and Ortiz Alonso, T. Family and Alzheimer's disease. *Notebook of familiar therapy*. 33: 29-34. 1996. [In Spanish].

## **Books/chapters**

Papanicolaou AC., Simos, P.G., **Castillo** E.M., & Sarkari, S. Magnetoencephalography. In Whittaker, H. (Ed.), *Encyclopedia of Language and Linguistics*. Elsevier Science, In press

James W Wheless, Eduardo M. **Castillo** and Andrew C Papanicolaou,. Magnetoencephalography. In: Clinical Neurophysiology of Infancy, Childhood, and Adolescence, edited by Drs. Holmes, Moshe, and Jones.

Eduardo M **Castillo** and Andrew C Papanicolaou. Electrocortical stimulation. In: Neuroimage techniques: applications to the study of cognitive processes. Vol II. Maestu (Eds.), Madrid 2005

Jaime Parra, Eduardo Martínez-**Castillo**, Fernando Lopes da Silva Magnetoencefalografía. In: EPILEPSIAS: DIAGNOSTICO Y TRATAMIENTO Editorial Mediterráneo, Santiago, Buenos Aires, Montevideo, 2004. [In Spanish ]

Papanicolaou, A.C., Simos, P.G., Fletcher, J.M., Foorman, B.F., **Castillo**, E.M., & Sarkari, S. Early development and plasticity of neurophysiological processes involved in reading. (2003). in B. Foorman (Ed.), *Preventing and Remediating Reading Difficulties: Bringing Science to Scale*. Timonium, MD: York Press.

Jaime Parra, Eduardo Martinez **Castillo**, Fernando Lopes da Silva. Magnetoencephalography. In: Diagnosis and epilepsy treatment. McGraw-Hill (Eds.), Madrid 2003.

Papanicolaou, A.C., Simos, P.G., Fletcher, J.M., **Castillo**, E.M., Breier, J.I., & Sarkari, S. The emergence and treatment of developmental reading disability: Contributions of functional brain imaging. In J.B. Bodenheimer (Ed.), *Language Development and Disorders in Childhood*, Seminars in Pediatric Neurology. W.B Saunders, in Press.

Shirin Sarkari, Panagiotis G. Simos, Joshua I. Breier, Jack M. Fletcher, Eduardo M. **Castillo**, & Andrew C. Papanicolaou. Contributions of Magnetic Source Imaging to the Understanding of Dyslexia. *Seminars in Pediatric Neurology*, 2002 Sep; 9 (3):229-38.

Parra J., Martinez **Castillo** E., Iragui V. Magnetoencephalography. In: Manual de Electroencefalografía. McGraw-Hill (Eds.), Madrid 2002. [In Spanish].

**Martinez Castillo** E. Neurofunctional study of Alzheimer's disease. (Doctoral Thesis). Faculty of Psychology (U.C.M.).Madrid. Spain. 1998. [In Spanish].

## **Invited talks**

Eduardo M Castillo. Mapping receptive language function: reliability and clinical validity. Clinical Workshop: Magnetoencephalography. Annual meeting American Clinical Neurophysiology Society, November 2006 Chicago, EEUU. Invited talk

Eduardo M. **Castillo**. Evaluating the functional integrity of mesial temporal structures through a multimodal association task. Symposium 13: Presurgical Mapping. Biomag 2006 - 15th International Conference on Biomagnetism. August 25, 2006, Vancouver, BC, Canada.

Eduardo M **Castillo**. Functional mapping of linguistic and sensorimotor function: contributions of MEG. Grand Rounds, Department of Neurology and Neurosurgery. University of Pittsburg, Pennsylvania. May 17<sup>th</sup> 2006.

Eduardo M **Castillo**. Special interest groups: Magnetoencephalography. American Epilepsy Society. 59th Annual Meeting. New Orleans, December 2-6, 2005. Invited talk.

Eduardo M **Castillo**. 1ST PLENARY SESSION: CURRENT APPLICATIONS. MEG Applications Conference. Xylocastro, Greece September 15-17 2005 Invited talk.

Eduardo M **Castillo**. 2ND PLENARY SESSION: STANDARD ACTIVATION PROTOCOLS. MEG Applications Conference. Xylocastro, Greece September 15-17 2005 Invited talk.

Eduardo M **Castillo**. 5th PLENARY SESSION: CRITERIA FOR DIAGNOSTIC PRACTICE AND ISSUES OF REIMBURSEMENT MEG Applications Conference. Xylocastro, Greece September 15-17 2005 Invited talk.

Eduardo M **Castillo**. 7TH PLENNARY SESSION: DEVELOPMENT OF NEW APPLICATIONS. MEG Applications Conference. Xylocastro, Greece September 15-17 2005 Invited talk.

Eduardo M **Castillo**, James W Wheless, Andrew C Papanicolaou. MEG: Outcome studies. Special interest groups. American Epilepsy Society. 58th Annual Meeting. New Orleans, December 3 - 8, 2004. Invited talk.

Eduardo M **Castillo**, James W Wheless and Andrew C Papanicolaou. Clinical Workshop: Magnetoencephalography. Annual meeting American Clinical Neurophysiology Society, September 2004 Montreal, Canada. Invited talk

Eduardo M. **Castillo**, Joshua I. Breier, James W. Wheless, Ekaterina Pataraiia, Andrew C. Papanicolaou. Planning epilepsy surgery when language is compromised: comparisons of MEG-derived maps of activation with the Wada test and with direct electrical stimulation mapping. 6<sup>Th</sup> European Congress on Epileptology. Vienna, May 30<sup>th</sup> -June 3rd..2004. Invited talk

Eduardo M **Castillo**. Topic: Clinical applications of MEG in epilepsy. Annual MEG user meeting organized by 4D-Neuroimaging. New York, August 2004. Invited talk.

**Abstracts (Peer-Reviewed Presentations):**

Eduardo M. **Castillo**, Joshua I. Breier, Shirin Sarkari, Slater Jeremy, and Papanicolaou C. Andrew. Mapping Eloquent Cortex Using MEG: Clinical Findings after 800 Procedures. American Epilepsy Society. 60th Annual Meeting. San Diego, December 2-6, 2006.

Eduardo M. **Castillo**, Thais Tarancon, Antonio Russi, Andrew C. Papanicolaou. Contributions of MEG to the correct presurgical identification of the epileptogenic tuber. American Epilepsy Society. 60th Annual Meeting. San Diego, December 2-6, 2006.

Eduardo M. **Castillo**, Disheng Meng, Joshua I. Breier, Michael Pearman, Boake Corwin, Andrew C. Papanicolaou. Atypical patterns of somatosensory representation after stroke. Biomag 2006 - 15th International Conference on Biomagnetism. August 20 - 26, 2006, Vancouver, BC, Canada.

Eduardo M **Castillo**, Men Disheng, Breier Joshua, Boake Corwin, Mark McManis, Pearlman Michael, Andrew C Papanicolaou. Does slow oscillatory activity reflect cortical diaschisis in subcortical stroke? Biomag 2006 - 15th International Conference on Biomagnetism. August 20 - 26, 2006, Vancouver, BC, Canada.

**Castillo**, E., Sarkari, S., McManis, M. and Papanicolaou, A.C.. Transcallosal connectivity during touch perception in children with spina bifida. International Neuropsychological Society meeting (INS) From Plasticity to Rehabilitation. Zurich, Switzerland, July 26-30. 2006

Eduardo M. **Castillo**, Joshua I. Breier, James W. Wheless, Jeremy D. Slater, Nitin Tandon, James E. Baumgartner, Mark H. McManis, and Andrew C. Papanicolaou. Contributions of Direct Cortical Stimulation and MEG Recordings To Identify "Essential" Language Cortex. American Epilepsy Society. 59th Annual Meeting. Washington DC, December 2-6, 2005. *Epilepsia* 46 Suppl. 8 :324 (Abst. 3.139 ) , 2005

Ekaterina Pataraiia, Panagiotis G. Simos, Rebecca L. Billingsley-Marshall, Eduardo M. **Castillo**, Joshua I. Breier, Shirin Sarkari, and Andrew C. Papanicolaou. Assessment of the Localization Accuracy of Magnetoencephalography in Temporal Lobe Epilepsy – Comparison with Invasive EEG. American Epilepsy Society. 59th Annual Meeting. Washington DC, December 2-6, 2005. *Epilepsia* 46 Suppl. 8 :327 (Abst. 3.149 ) , 2005

Jeremy D. Slater, Mark H. McManis, Dave Clarke, Freedom F. Perkins, Amy L. McGregor, James W. Wheless, Joshua I. Breier, Eduardo M. **Castillo**, and Andrew C. Papanicolaou. Magnetic Source Localization in Patients with Idiopathic Generalized

Epilepsies. American Epilepsy Society. 59th Annual Meeting. Washington DC, December 2-6, 2005. *Epilepsia* 46 Suppl. 8 :327 (Abst. 3.150 ) , 2005

Donna L. Minter, Wenbo Zhang, Ann Hempel, Gretchen Weatherly, Eduardo M. **Castillo**, and Michael D. Frost. Is Magnetoencephalography/Magnetic Source Imaging (MSI) a Reliable Replacement for the Wada Test in the Pediatric Population?. American Epilepsy Society. 59th Annual Meeting. Washington DC, December 2-6, 2005. *Epilepsia* 46 Suppl. 8 :79 (Abst. 1.189 ) , 2005

Freedom F. Perkins, Dave F. Clarke, Amy Waller, Jeremy D. Slater, Amy L. McGregor, Mark H. McManis, Eduardo M. **Castillo**, James W. Wheless, and James E. Baumgartner. The Corpus Callosotomy Experience at the Texas Comprehensive Epilepsy Program. American Epilepsy Society. 59th Annual Meeting. Washington DC, December 2-6, 2005. *Epilepsia* 46 Suppl. 8 :257 (Abst. 2.488 ) , 2005

Patarraia, E., **Castillo**, EM., Simos, PG., Billingsley-Marshall, RL., Sarkari, S., Breier, JI., Fitzgerald, M., Papanicolaou, A. Comparison of MEG with invasive EEG in temporal lobe epilepsy. 26<sup>th</sup> International Epilepsy Conference. Paris

Eduardo M. **Castillo**, Joshua I. Breier, James W. Wheless, James E. Baumgartner, Ekaterina Patarraia and Andrew C. Papanicolaou. Is linguistic function still there after multiple subpial transections over Wernicke's area?. American Epilepsy Society. 58th Annual Meeting. New Orleans, December 3 - 8, 2004.

Joshua I. Breier, Panagiotis G. Simos, Eduardo M. **Castillo**, Ekaterina Patarraia, Rebecca L. Billingsley, James W. Wheless, Andrew C. Papanicolaou. Abnormal activation of language cortex in patients with chronic seizures and academic achievement deficit. American Epilepsy Society. 58th Annual Meeting. New Orleans, December 3 - 8, 2004.

Freedom F. Perkins, Dave F. Clarke, Joshua I. Breier, Monica M. Chacon, Eduardo **Castillo**, David Weers, James W. Wheless. Benign rolandic epilepsy: neurophysiological testing and magnetic source imaging analysis. American Epilepsy Society. 58th Annual Meeting. New Orleans, December 3 - 8, 2004.

Deanna Dickens, William D. Gaillard, Eduardo Martinez-**Castillo**, Frank J. Ritter, Michael D. Frost, Patricia Penovich, Gail Risse, John Gates. Presurgical localization of language: a preliminary comparison of multiple techniques. American Epilepsy Society. 58th Annual Meeting. New Orleans, December 3 - 8, 2004.

Ekaterina Patarraia, Rebecca L. Billingsley-Marshall, Panagotis G. Simos, Eduardo M. **Castillo**, Joshua I. Breier, Shirin Sarkari, Andrew C. Papanicolaou. Organization of receptive language-specific cortex before and after left temporal lobectomy. American Epilepsy Society. 58th Annual Meeting. New Orleans, December 3 - 8, 2004.

Eduardo M. **Castillo**, P. G. Simos, J. W. Wheless, J. E. Baumgartner, M.E. Fitzgerald, A.C. Papanicolaou. Mapping sensorimotor function in patients with perirolandic lesions:

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