BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Manuel F. Casanova	Kolb Endowed Chair in Psychiatry
eRA COMMONS USER NAME M0CASA02	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Río Piedras, Puerto Rico	B.Sc.	1973	Chemistry
University of Puerto Rico School of Medicine, San Juan	M.D.	1979	Medicine

A. Positions and honors

Positions and employment

1982–1983 Chief Resident in Neurology, University District Hospital, Puerto Rico
1984–1986 Research Fellow, Neuropathology lab, Johns Hopkins University School of Medicine
1985 Consultant/Neuropathologist, Sinai Hospital, Baltimore, Maryland
1986–1991 Neurologist/Neuropathologist, Clinical Brain Disorders Branch, NIMH
1987–1991 Director, Brain Bank Unit, Clinical Brain Disorders Branch, NIMH
1989–1994 Scientific Expert, Advisory Panel, Yakovlev-Haleem Collection, Armed Forces Institute of Pathology, Washington, D.C.
1990–1991 Deputy Medical Examiner, Washington, D.C.
1990–1991 Neuropathologist, D.C. General Hospital, Washington, D.C.
1990–1991 Professorial Lecturer, Department of Forensic Science, Graduate School of Arts and Sciences, George Washington University
1991–1998 Psychiatry Service Staff Physician, VA Hospital, Downtown Division, Augusta, Georgia
1991–2003 Professor of Psychiatry and Neurology, Medical College of Georgia, Augusta, Georgia
1991–2003 Consultant in Pathology, Medical College of Georgia
1992–2003 Consultant in Psychiatry, Dwight David Eisenhower Army Medical Center, Fort Gordon, Georgia
1995–2003 Research Resource Liaison Coordinator, Department of Psychiatry, Medical College of Georgia
1998–2000 Consultant, Eisai Inc.
2000 Consultant, Nycomed Amersham
2002–2003 Professor of Anatomy and Cell Biology, Medical College of Georgia
2002–2003 Professor, School of Graduate Studies, Medical College of Georgia
2003 Consultant, Aventis Pasteur Ltd.
2003 Affiliate member, Biomedical and Health Sciences Institute, University of Georgia
2003–present Kolb Endowed Chair in Psychiatry, University of Louisville, Louisville, Kentucky
2005–present Associate Chair for Research, Department of Psychiatry, University of Louisville

Other experience and professional memberships

1996–2002 Scientific Advisory Board, National Alliance for Autism Research (NAAR)
1991–2002 Founding member, Tissue Advisory Board, Autism Tissue Program (ATP)
2005–present Advisory Board, Families for Effective Treatment of Autism (FEAT)
2005–(2009) Chair of Developmental Brain Disorders (DBD) Study Section, Center for Scientific Review
2007–present Editor, *Autism Research*
2008 President, Louisville chapter, Society for Neuroscience
2009 Associate Editor, *Translational Neuroscience*
2009 Editor, *Autism Insights*
2009 Editor, *Autism Research and Treatment*

Honors

1970–1975 Honor Society, University of Puerto Rico

1979	Academic Acknowledgment Plaque, University of Puerto Rico School of Medicine
1981	Presidential Award, Puerto Rico chapter, American Medical Association
1982	Mead and Johnson Award
1982–1985	Physician's Recognition Award, American Medical Association
1984–1986	National Research Service Award, PHS Fellowship 5-T32-NS07179-05-0031, U.S. Department of Health and Human Services
1994	Stanley Scholar
1995	Distinguished Faculty Award, Medical College of Georgia
2002	Senior Scientist Award, 11th Biennial Winter Workshop on Schizophrenia, Davos, Switzerland
2003	Distinguished Clinical Research Award, Medical College of Georgia

B. Selected peer-reviewed publications (in chronological order, 2006 onwards)

1. Chance SA, Casanova MF, Switala AE, Crow TJ, Esiri MM. Minicolumn thinning in temporal lobe association cortex but not primary auditory cortex in normal human ageing. Acta Neuropathol 2006;111:459–64
2. El-Zehiry N, Casanova M, Hassan H, Farag A. Effect of minicolumnar disturbance on dyslexic brains: an MRI study. Biomedical imaging: macro to nano. Piscataway, N.J.: IEEE; 2006, 1336–1339.
3. Casanova MF, Trippe J. Regulatory mechanisms of cortical laminar development. Brain Res Rev 2006;51:72–84
4. Parthasarathy LK, Seelan RS, Tobias CR, Casanova MF, Parthasarathy RN. Mammalian inositol 3-phosphate synthase: its role in the biosynthesis of brain inositol and its clinical use as psychoactive agent. In: Majumder AL, Biswas BB, eds. Biology of inositols and phosphoinositides. New York: Springer; 2006. p. 291–312
5. Casanova MF, Van Kooten IAJ, Switala AE, Van Engeland H, Heinsen H, Steinbusch HWM, Hof PR, Trippe J, Stone J, Schmitz C. Minicolumnar abnormalities in autism. Acta Neuropathol 2006;112:287–303.
6. Casanova MF. Neuropathological and genetic findings in autism: the significance of a putative minicolumnopathy. Neuroscientist 2006;12:435–441.
7. Casanova MF, Van Kooten I, Switala AE, Van Engeland H, Heinsen H, Steinbusch HWM, Hof PR, Schmitz C. Abnormalities of cortical minicolumnar organization in the prefrontal lobes of autistic patients. Clin Neurosci Res 2006;6:127–133.
8. El-Baz A, Farag A, Ali A, Gimel'farb G, Casanova MF. A framework for unsupervised segmentation of multi-modal medical images. In: Beichel RR, Sonka M, eds. Computer vision approaches to medical image analysis. New York: Springer; 2006. p. 120–31
9. Chance SA, Casanova MF, Switala AE, Crow TJ. Minicolumnar structure in Heschl's gyrus and planum temporale: asymmetries in relation to sex and callosal fiber number. Neuroscience 2006; 143:1041–50
10. Casanova MF. Cortical circuit abnormalities in the brains of autistic patients. In: Martos Pérez J, González PM, Llorente Comí M, Nieto C, eds. New developments in autism: The future is today. London: Jessica Kingsley; 2006. p. 267–88
11. Casanova MF, Trippe J, Switala AE. A temporal continuity to the vertical organization of the human neocortex. Cereb Cortex 2007;17:130–7
12. Casanova MF, Switala AE, Trippe J. A comparison study of the vertical bias of pyramidal cells in the hippocampus and neocortex. Dev Neurosci 2007;29:193–200
13. Casanova MF, Farag A, El-Baz A, Mott M, Hassan H, Fahmi R, Switala AE. Abnormalities of the gyral window in autism: a macroscopic correlate to a putative minicolumnopathy. J Spec Educ Rehabil 2007;2006(1–2):85–101.
14. El-Baz A, Casanova MF, Gimel'farb G, Mott M, Switala AE. new image analysis approach for automatic classification of autistic brains. In: Biomedical imaging: From nano to macro. Piscataway: IEEE; 2007. p. 352–55
15. Fahmi R, El-Baz AS, Abd El Munim HE, Farag AA, Casanova MF. Classification techniques for autistic vs. typically developing brain using MRI data. In: Biomedical imaging: From nano to macro. Piscataway: IEEE; 2007. p. 1348–51
16. Casanova MF, Mott M. The neuropathology of autism: a selective review. J Spec Educ Rehabil 2007;2006:21–35

17. Abd El Munim H, Fahmi R, El-Zehiry NY, Farag A, Casanova MF. Volumetric MRI analysis of dyslexic subjects using a level set framework. In Suri JS, Farag A, eds. Deformable models: Theory and biomaterial applications. New York: Springer; 2007. p. 535–66
18. Fahmi R, El-Baz A, Abd El Munim H, Abdel-Hakim AE, Farag AA, Casanova MF. Robust neuroimaging-based classification techniques of autistic vs. typically developing brain. In Suri JS, Farag A, eds. Deformable models: theory and biomaterial applications. New York: Springer-Verlag; 2007, 535–566.
19. Hoffman WH, Casanova MF, Cudrici CD, Zakranskaia E, Venugopalan R, Nag S, Oglesbee MJ, Rus H. Neuroinflammatory response of the choroid plexus epithelium in fatal diabetic ketoacidosis. Exp Mol Pathol 2007;83:65–72
20. Casanova MF, Schizophrenia seen as a deficit in the modulation of cortical minicolumns by monoaminergic systems. Int Rev Psychiatry 2007;19:361–72
21. Johnson SB, Datta S, Hornung CA, Casanova MF. Mathematical models of epigenetic influences in autism: a new perspective based on neuropathological findings. In Carlisle PC, ed. Progress in autism research. New York: Nova Biomedical; 2007, 101–114.
22. Casanova MF. The neuropathology of autism. Brain Pathol 2007;17:422–33
23. Casanova MF, Switala AE, Trippe J, Fitzgerald M. Comparative minicolumnar morphometry of three distinguished scientists. Autism 2007;11:557–69
24. El-Baz A, Casanova M, Gimel'farb G, Mott M, Switala A. Autism diagnostics by 3D texture analysis of cerebral white matter gyrifications. In Ayache N, Ourselin S, Maeder A, eds. Medical image computing and computer-assisted intervention. New York: Springer; 2007, 882–890.
25. Abd El Munim H, Farag AA, Casanova MF. Frequency-domain analysis of the human brain for studies of autism. ISSPIT 2007. Piscataway, N.J.: IEEE; 2007, 1198–1203.
26. Casanova MF, The minicolumnopathy of autism: a link between migraine and gastrointestinal symptoms. Med Hypotheses 2008;70:73–80
27. Casanova MF, Tillquist CR. Encephalization, emergent properties, and psychiatry: a minicolumnar perspective. Neuroscientist 2008;14:101–18
28. Seelan RS, Khalyfa A, Lakshmanan J, Casanova MF, Parthasarathy RN. Deciphering the lithium transcriptome: microarray profiling of lithium-modulated gene expression in human neuronal cells. Neuroscience 2008;151:1184–97
29. Casanova MF, Konkachbaev AI, Switala AE, Elmaghraby AS. Recursive trace line method for detecting myelinated bundles: a comparison study with pyramidal cell arrays. J Neurosci Methods 2008;168:367–72
30. Casanova MF, Kreczmanski P, Trippe JT II, Switala AE, Heinsen H, Steinbusch HWM, Schmitz C. Neuronal distribution in the neocortex of schizophrenic patients. Psychiatry Res 2008;158:267–77
31. Fajardo C, Escobar MI, Buriticá E, Arteaga G, Umbarila J, Casanova MF, Pimienta H. Von Economo neurons are present in the dorsolateral (dysgranular) prefrontal cortex of humans. Neurosci Lett 2008;435:215–8
32. El-Zehiry N, Casanova MF, Elmaghraby A. Variability of the relative corpus callosum cross sectional area between dyslexic and normally developed brains. In: Biomedical imaging: From nano to macro. Piscataway: IEEE; 2008. p. 436–9
33. Casanova MF. Neuropathological findings in Asperger syndrome. In: Rausch JL, Johnson ME, Casanova MF, eds. Asperger's disorder. New York: Informa Healthcare; 2008. p. 155–70
34. El-Baz A, Casanova MF, Gimel'farb G, Mott M, Switala AE. An MRI-based diagnostic framework for early diagnosis of dyslexia. Int J Comput Assist Radiol Surg 2008;3:181–9
35. El-Baz A, Casanova MF, Gimel'farb G, Mott M, Switala AE, Vanbogaert E, McCracken R. A new CAD system for early diagnosis of dyslexic brains. IEEE Int Conf Image Process 2008;15:1820–3
36. Casanova MF. The significance of minicolumnar size variability in autism: a perspective from comparative anatomy. In: Zimmerman AW, ed. Autism: Current theories and evidence. Totowa: Humana Press; 2008. p. 349–60
37. Chance SA, Casanova MF, Switala AE, Crow TJ. Auditory cortex asymmetry, altered minicolumn spacing and absence of ageing effects in schizophrenia. Brain 2008;131:3178–92
38. El-Baz A, Casanova MF, Gimel'farb G, Mott M, Switala AE, Vanbogaert E, McCracken R. Dyslexia diagnostics by 3D texture analysis of cerebral white matter gyrifications. IEEE Int Conf Pattern Recogn 2008;19. DOI: 10.1109/ICPR.2008.4760971
39. Casanova MF, Trippe J II, Tillquist C, Switala AE. Morphometric variability of minicolumns in the striate cortex of Homo sapiens, Macaca mulatta, and Pan troglodytes. J Anat 2009;214:226–34

40. Sokhadze EM, Baruth J, Tasman A, Sears L, Mathai G, El-Baz A, Casanova MF. Event-related potential study of novelty processing abnormalities in autism. Appl Psychophysiol Biofeedback 2009;34:37–51
41. Sokhadze EM, El-Baz A, Baruth J, Mathai G, Sears L, Casanova MF. Effects of low frequency repetitive transcranial magnetic stimulation (rTMS) on gamma frequency oscillations and event-related potentials during processing of illusory figures in autism. J Autism Dev Disord 2009;39:619–34
42. Seelan RS, Lakshmanan J, Casanova MF, Parthasarathy RN. Identification of *myo*-inositol-3-phosphate synthase isoforms: characterization, expression, and putative role of a 16-kDa γ_c isoform. J Biol Chem 2009;284:9443–57
43. Casanova MF, Trippe J. Radial cytoarchitecture and patterns of cortical connectivity in autism. Phil Trans R Soc B 2009;364:1433–6
44. Casanova MF, El-Baz A, Mott M, Mannheim G, Hassan H, Fahmi R, Giedd J, Rumsey JM, Switala AE, Farag A. Reduced gyral window and corpus callosum size in autism: possible macroscopic correlates of a minicolumnopathy. J Autism Dev Disord 2009; in press.
45. Casanova MF. La esquizophrenia como condición neurológica debido a una falta en la lateralización del cerebro: observaciones micro- y macroscópicas. Rev Neurol 2009; in press
46. Casanova MF, El-BAz A, Vanbogaert E, Narahari P, Switala A. Minicolumnar core width by lamina comparisons between autistic subjects and controls. Brain Pathology, in press.
47. Casanova MF, El-Baz A, Giedd J, Rumsey JM, Switala A. Increased white matter gyral depth in dyslexia: implications for corticortical connectivity. Journal of Autism and Developmental Disorders, in press.
48. Casanova MF, El-Baz A, Vanbogaert E, Narahari P, Trippe J. Minicolumnar width: comparison between supragranular and infragranular layers. J Neuroscience Methods, in press.
49. Vladimir B, Jaroslav B, Casanova MF. Plausible mechanisms for brain structural and size changes in human evolution. Collegium Anhropologicum, in press.
50. Williams EL, Casanova MF. Autism and dyslexia: a spectrum of cognitive styles as defined by minicolumnar morphometry. Med Hyp, in press.
51. Sokhadze, E., Baruth, J., Casanova, MF. Neuropathological theories and EEG gamma oscillation abnormalities in autism. Neuroconnections (in press).
52. Crespo FA, Fernandez-Botran R, Tillquist CR, Mott M, Casanova MF. Immune Alterations in Autism: The Role of Cytokine Polymorphisms. In Chauhan A and Brown T (eds) Autism:Oxidative Stress, Inflammation and Immune Abnormalities. Taylor and France Group, LLC, in press.
53. Johnson SB, Casanova MF. Interhemispheric Connectivity: The Evolution and Nature of the Corpus Callosum. In TB Westland and Calton RN (eds) Handbook on White Matter: Structure, Function and Changes. Nova Science Publishers, Inc., New York, in press.
54. Casanova MF. The Brain in Autism. Haines C and Colletti SJ (eds) Autism and Seizures, Jessica Kingsley Publishers, London, in press.

C. Research support

Active

2009–2013	NIH R01-MH-86784 Building a selective inhibitory control tone in autism: An rTMS study (Principal Investigator)
2009-2011	NIH RO1 MH088893 Gross morphological correlates to the minicolumnopathy of autism (Principal Investigator)

Completed

2002–2006	NIH R01-MH-62654 Reduced interneuronal space in schizophrenia (Principal Investigator)
2002-2006	NIH R01-MH061606 Normal human and schizophrenic brain (Principal Investigator)
2004–2007	NIH P20-RR-17702 The effect of interneuron loss on minicolumnar structure (Co-investigator)
2004–2008	NIH R01-MH-069991 Modular abnormalities of brain organization in autism (Principal Investigator).
2005–2009	VA Merit Review: Mood stabilizing medications and the inositol signaling system (Co-Investigator) PI: Ranga N. Parthasarathy