CURRICULUM VITAE

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Place of Birth: Corfu, Greece

Education

1985	M D	Medicine	Siena University, Italy
1999	PhD	Behavioral Neurosciences	Boston University School of Medicine

Postdoctoral Training

10/1985-09/1989	Resident	Anesthesiology	Siena University, Italy
10/1990-09/1991	Resident (Full-time)	Psychiatry	Siena University, Italy
10/1991-09/1994	Resident (Part-time)	Psychiatry	Siena University, Italy
10/1991-09/2000	Research fellow in Neurology	Clinical research	Massachusetts General Hospital
12/1996-01/1997	Visiting Research fellow	Clinical research	Welcome Department of Cognitive Neurology, University College London, UK

Faculty Academic Appointments

10/1991-03/1999	Research Fellow	Neurology	Harvard Medical School
04/1999-06/2003	Instructor	Neurology	Harvard Medical School
07/2003-10/2007	Assistant Professor	Neurology Primary Appt	Harvard Medical School
11/2007-08/2008	Assistant Professor	Psychiatry Primary Appt	Harvard Medical School
09/2008-present	Associate Professor	Psychiatry Primary Appt	Harvard Medical School
09/2008-present	Associate Professor	Neurology Secondary Appt	Harvard Medical School

Appointments at Hospitals/Affiliated Institutions

1978-1985	Research assistant	Microbiology	Siena University, Italy
1985-1989	Graduate assistant	Medical Physics	Siena University, Italy
1986-1989	Visiting Scientist and Lecturer	Posturography and Biomagnetism	UFR-Paris Nord, Bobigny, France
1989-1990	Graduate assistant	Institute of Mental & Nervous Disorders	Siena University, Italy
1991-1994	Research fellow	Clinical research	Massachusetts General Hospital
1992-1995	Research scientist	Basic research	Memorial Veterans Administartion Medical Center, Bedford, MA
2000-present	Assistant in developmental biology	Clinical research	Massachusetts General Hospital
2008-present	Research scientist in Psychiatry	Clinical research	Massachusetts General Hospital
2013-present	Research scientist	Clinical research	Brigham and Women's Hospital
2013-present	Neuroscientist	Clinical research	McLean Hospital

Major Administrative Leadership Positions

Local

1999-2008	Chief of Neuroanatomy, Center for Morphometric Analysis	Massachusetts General Hospital
2001-2009	Co-Director, Center for Morphometric Analysis	Massachusetts General Hospital
2008-present	Director, MGH Morphometric Analysis Center Core	Massachusetts General Hospital
2008-present	Director, Center for Morphometric Analysis	Massachusetts General Hospital
2011-present	Co-Director, Center for Neural Systems *investigations* (CNS*i*)	Massachusetts General Hospital

Committee Service

Local

2002	Member, Organizing steering committee Brainstorm 2002: The future of neuroimaging	Athinoula A. Martinos Center for Biomedical Imaging , Massachusetts General Hospital
2007-present	Member, Research Psychiatry committee	Massachusetts General Hospital
2011-present	Member, Institutional Review Board (IRB) Committee	Massachusetts General Hospital
2013-present	Director of Computational Imaging Anatomy	Psychiatry Imaging Laboratory, Brigham and Women's Hospital

Professional Societies

1988-present	Academy of Sciences of Siena (detta "dei Fisiocritici"), Italy
1999-present	Society for Neuroscience (SFN)

Grant review activities

Ad hoc Reviewer

Dutch National Initiative Brain and Cognition: NOW programme Brain and Cognition: Societal Innovation in Health Care, Education and Social Safety 2010 NIHC

The Netherlands Organisation for Health and Development: Klinische Fellows 2012/2013 - ZonMw SA

PAR-14-035 for Centers for Biomedical Research Excellence (**COBRE**), National Institute of General Medical Sciences (**NIGMS**), National Institutes of Health (**NIH**)

Editorial Activities

Editorial Board Member

Brain Imaging and Behavior

Ad hoc Reviewer

American Journal of Psychiatry
Biological Psychiatry
Archives of General Psychiatry
Neuroimage
Human Brain Mapping
Cerebral Cortex
Schizophrenia Research: Neuroimaging
Brain and Language
Brain Structure and Function
Neuroscience

Honors and Prizes

1990	Fellowship	Italian Foreign Ministry
1997	The Henry I. Russek First Prize Award	Boston University School of Medicine
1998	The Carol Bibber Award in Behavioral Neuroscience	Boston University School of Medicine
1998	Young Investigator Award	National Alliance for Research on Schizophrenia and Depression (NARSAD)
2012	Excellent Investigator Award	Chinese Association of Acupuncture-Moxibustion, Beijing, China
2014	Best Paper Award	International Academy, Research, and Industry Association (IARIA) COGNITIVE 2014, Sixth International Conference on Advanced Cognitive Technologies and Applications Venice, Italy

Report of Local Teaching and Training

Local Contributions

Hospital Courses and Invited Teaching Presentations

1995-2009	fMRI: Functional Magnetic Resonance Imaging, Visiting Fellowship Program, Massachusetts General Hospital "Core neuroanatomy for morphometric analysis": Teaching four technicians for a total of sixty hours per year. This includes twenty hours of actual teaching and two hours of preparation for each hour of actual teaching.

Formally Supervised Trainees

1998-2000	Kathleen Hui, MD Mentor of Neuroanatomy	Assistant Professor of Radiology, HMS
1998-1999	Jean Frazier, MD Mentor of Neuroanatomy	Professor of Psychiatry, University of Massachusetts Medical School
1998-2000	Monica Strauss, PhD Mentor of Neuroanatomy	Graduate Student, Boston University
2000-2001	Rebecca Melrose, PhD Mentor of Morphometry	Graduate Student, Boston University
2001-2002	Amy Sonricker Supervisor of Research	Research Coordinatior, Boston Children's Hospital
2000-2004	Megan Dieterich Supervisor of Research	Physicians Assistant, Washington, DC
2001-2004	Joseph Normandin, PhD Supervisor of Research	Postdoctoral Fellow, Netherlands Institute of Neuroscience, Holland
2001-2002	Heather Sanders Supervisor of Research	Baylor College of Medicine, Houston TX
2001-present	Denise Boriel, MA, MS Supervisor of Research	Research Technologist, MGH
2002-2004	Matthew Albaugh Supervisor of Research	Graduate student, University of Vermont
2002-2004	John Schlerf Supervisor of Research	Postdoctoral Fellow, Johns Hopkins University
2002-2004	Ethan Segal Supervisor of Research	Tufts School of Medicine, Boston MA
2002-2005	Seann Tulloch Supervisor of Research	High School Teacher, St. John's Prep, Danvers, MA
2002-present	Steven Hodge Supervisor of Research	Instructor of Psychiatry, University of Massachusetts Medical School
2003-2005	James Howard Supervisor of Research	Graduate student, Northwestern University

2003-present	John Kaiser Supervisor of Research	Research Technologist, MGH
2003-2005	Kalika Kelkar, PsyD Supervisor of Research	Postdoctural Resident in Clinical Neuropsychology, Bedford V.A. Medical Center
2003-2005	Kristen Kelly, NP Supervisor of Research	Nurse Practitioner, Boston MA
2005-present	Eve Valera Mentor of Neuroanatomy	Assistant Professor of Psychiatry, HMS & MGH
2004-2007	Lena Tang, NP Supervisor of Research	Nurse Practicioner, MGH
2004-2008	Jeremy Jackson, RN Supervisor of Research	Anesthesia Technician, Philadelphia, PA
2004-2006	Vitaly Napadow, PhD Mentor of Neuroanatomy	Assistant Professor of Radiology, MGH
2005-2006	Baker Hamilton Supervisor of Research	Univ. of Pennsylvania Medical School, Philadelphia, PA
2005-2006	Matthew Jerram, PhD Mentor of Neuranatomy	Assistant Professor of Psychology, Suffolk University
2005-2006	Leah Robinson Supervisor of Research	
2005-2007	John Bruyere, MA in Medical Sciences Supervisor of Research	Senior Research Coordinator, Dana-Cancer Institute, Boston, MA
2005-2008	David Zai Supervisor of Research	
2005-2007	Scott Sorg Supervisor of Research	Graduate student, Univ. of California, San Diego, CA
2006-2008	Isabelle Rosso, PhD Mentor of Neuroanatomy	Assistant Professor of Psychology, HMS & McLean Hospital
2007-2009	Laura Holsen, PhD Mentor of Neuroanatomy	Instructor of Psychiatry, HMS & Brigham and Women's Hospital
2007-2009	Danielle Sliva Supervisor of Research	Graduate Student, Boston University Boston, MA
2007-2010	Michelle Giddens Supervisor of Research	PhD Student, Emory University, Atlanta, GA
2008-present	George Papadimitriou Supervisor of Research	Research Technologist, MGH
2008-present	Lichen Liang, PhD Mentor of Morphometry	Postdoctoral Fellow, MGH
2008-present	Brandon Abbs, PhD Mentor of Neuroanatomy	Postdoctoral Fellow, Brigham and Women's Hospital
2008-2010	Kelimer Milad , PhD Mentor of Morphometry	Instructor of Psychiatry, HMS & MGH
2009-present	Belen Pascual, PhD Mentor of Neuroanatomy	Postdoctoral Fellow, MGH

2009-2011	Samantha Huang, PhD Mentor of Neuroanatomy	Graduate Student, Boston University School of Medicine
2010-2011	Shawn Anderson Supervisor of Research	Research Technician, Brigham and Women's Hospital
2010-present	Brianne Campbell Supervisor of Research	Research Technician, MGH
2010-present	Maria Ida Iacono, PhD Mentor of Neuroanatomy and Morphometry	Postdoctoral Fellow, MGH
2011-present	Maria Giulia Preti Mentor of Neuroanatomy and Morphometry	Graduate Student, Politecnico of Milan, Italy
2011-present	Swathi Kiran, PhD Mentor of Neuroanatomy and Morphometry	Associate Professor, Sargent College of Health and Rehabilitation Sciences, Boston University
2011-present	Nicole McLaughlin, PhD Mentor of Neuroanatomy and Diffusion Imaging	Assistant Professor (Research), Alpert Medical School of Brown University
2012-present	Ziad Safadi, PhD Mentor of Morphometry and Diffusion Imaging	Postdoctoral Fellow, Rochester University
2012-present	Isaac Ng Mentor of Neuroanatomy and Morphometry	Research Technician, MGH
2012-present	Hesham Hamoda, M.D. Mentor of Neuroanatomy and Morphometry	Clinical Fellow in Psychiatry, Brigham & Women's Hospital
2012-present	Meina Quan, M.D., Ph.D. Mentor of Neuroanatomy and Morphometry	Visiting Research Fellow, Brigham & Women's Hospital
2012-present	Inga Koerte, M.D. Mentor of Neuroanatomy and Morphometry	Visiting Lecturer and Research Associate Brigham & Women's Hospital
2012-present	Jessica Zuo Mentor of Neuroanatomy and Morphometry	Student, Neurobiology major at Harvard College
2012-present	Kathryn Green Mentor of Neuroanatomy and Morphometry	Research Assistant, Brigham & Women's Hospital
2012-present	Michelle Giwerc Mentor of Neuroanatomy and Morphometry	Research Assistant, Brigham & Women's Hospital
2012-present	Eli Fredman Mentor of Neuroanatomy and Morphometry	Research Assistant, Brigham & Women's Hospital
2012-present	Charles Yergatian Mentor of Neuroanatomy,	Research Assistant, Brigham & Women's Hospital

	Morphometry and Diffusion Imaging	
2013-present	Marcia Frimpong Mentor of Neuroanatomy Morphometry, and Diffusion Imaging	Student, Wellesley College
2013-present	Elisa Scaccianoce Mentor of Neuroanatomy and Diffusion Imaging	Visiting Scholar, MGH

Report of Local, Regional, National, and International Invited Teaching and Presentations

Invited Presentations

Local

1995	Seminar	NMR Center, MGH. Title: MRI-based Morphometric Analysis of the Human Brain.
1998	Seminar	Brigham and Women's Hospital, Behavioral Neuroscience Seminars, Brigham Behavioral Neurology Group, Division of Cognitive and Behavioral Neurology. Title: Human white matter parcellation using diffusion weighted and conventional MR imaging.
1999	Invited Speaker	Neurology Department, MGH Title: Cortical Parcellation of the Neocortex using MRI.
2005	Invited Speaker	Jensen and Jensen Center for Psychopathology at the MGH Pediatric Psychopharmaocology Unit, Copley Plaza (11/01/05) Title: Anatomic Mapping: Automation and Neural Systems Specificity.
2006	Invited Speaker	Neuroscience Research Presentation MGH – CNY (02/01/2006) Title: Selective Cortical Abnormalities in Adults with ADHD; a Structural MRI Study.
2008	Seminar	The Massachusetts Mental Health Center; Public Psychiatry Division of the Beth Israel Deaconess Medical Center; Department of Psychiatry; HMS. Course in Human Neuropsychology Seminar Title: Neuroimaging Methods
2010	Seminar	Brigham and Women's Hospital – Psychiatry Neuroimaging Laboratory (PNL); HMS (March 21, 2011) Seminar Title: Human Association Fiber Pathways: The Superior Longitudinal Fascicle and its Relationship to Language
2011	Seminar	McLean Hospital - Neuroimaging Center; HMS. NIC Research Meeting (March 21, 2011) Seminar Title: Novel Evidence of Fiber Pathways using Diffusion Imaging

Regional

1998	Seminar	Department of Psychology, Boston University Program in Brain, Behavior and Cognition, Colloquium Series Title: Topographic and volumetric analysis of human white matter based on MRI technology (11/13/88).

National

1997	Invited Speaker	NIMH, NINDS, NICHD, Tools for Pediatric Neuroimaging, Inter-Institute Group for Pediatric Neuroimaging, Washington, DC (09/17-19/97). Title: In vivo parcellation of the human brain.
2000	Special Lecture	Departments of Biological Psychiatry and Neuroscience, Columbia University, NY (09/13/2000). Title: Quantitative Morphometric Analysis: Segmenting and Parcellating Gray and White Matter.
2000	Invited Speaker	Diffusion Tensor MRI (DT-MRI): "From Bench to Bedside"; session on "Structure and Architecture of the Normal Brain", National Institute of Health, Bethesda, MD (12/6-7/2000). Title: Diffusion Tensor Imaging: Strengths and Limitations.
2001	Invited Speaker	Brain Research Imaging Center, Department of Neurology, The University of Chicago, Chicago, IL (May 2001). Title: MRI-based Morphometric Analysis of the Human Brain.
2001	Invited Speaker	139-74 Beckman Institute, Biological Imaging Center Caltech, Pasadena, CA (August 2001). Title: Delineation of Cerebral Connections using Diffusion Tensor MRI.
2003	Invited Speaker	VA-VISN: Frontiers in Neuroimaging San Antonio, TX (07/11/2003).
2004	Invited Speaker	Cold Spring Harbor Laboratory: Brain Architecture Cold Spring Harbor, NY (09/24/2004). Title: Studying Neural Systems with Neuroimaging.
2006	Invited Speaker	Janssen, Johnson & Johnson, McNeil Presentation on ADHD Titusville, New Jersey (03/24/2006) Title: Brain Abnormalities in Adults with ADHD assessed with MRI.
2006	Invited Speaker	The Banbury Center, Cold Spring Harbor Laboratory Cold Spring Harbor, NY New York, (4/2006) Title: White Matter Analyses in Humans using Imaging
2007	Invited Speaker	The Banbury Center, Cold Spring Harbor Laboratory Cold Spring Harbor, NY New York, (5/21/2007) Title: White Matter Analyses: A Systems Perspective using Multimodal Imaging.
2007	Invited Speaker	Title: Altered Cortical Networks in Adults with ADHD using MRI American Academy of Child and Adolescent Psychiatry

		Boston, MA (10/23-28/2007)
2008	Invited Speaker	Center for the Neurobiology of Learning and Memory University of California Irvine, Irvine, CA (January 14, 2008). Title: Methods in Morphometric Analysis and Anatomic Mapping: Towards Automation and Neural Systems Specificity.

International

1997	Special Guest Lecture	The Hospital for Sick Children, Toronto, Ontario Title: In vivo MRI-based parcellation of the human brain (07/11/97). Title: Studying Cerebral Connections in the Living Human.
2000	Invited Speaker	Aristoteleion University of Thessaloniki, Thessaloniki, Greece Meeting in Hypertension (01/28-29/00).
2000	Invited Speaker	Department of Neurology, National University of Athens Medical School, Athens, Greece (June 2000). Title: Anatomic consequences of stroke: neurobiological implications.
2000	Invited Speaker	Member-initiated Symposium: "Diffusion Imaging in the Brain: From Protons to Pathways" Sixth Annual Meeting of the Organization For Human Brain Mapping, San Antonio, Texas, USA (06/12-16/2000). Title: Understanding the in vivo Anatomic Connectivity in the Human Brain.
2002	Invited Speaker	International Society for Magnetic Resonance in Medicine (ISMRM) ISMRM Meeting, Hawaii Convention Center, Honolulu, Hawaii, USA (05/18-24/2002). Title: White Matter Anatomy and Functional Connections in the Brain.
2002	Invited Speaker	Brainstorm 2002: The Future of Neuroimaging First International Meeting, Athens, Greece (09/19-21/2002). Title: Anatomic Mapping: Towards Automation and Neural Systems Specificity. Title: Diffusion Tensor Imaging.
2005	Invited Speaker	XIII World Congress of Psychiatry Cairo, Egypt (09/13/05) Title: Cortical Abnormalities in Adults with ADHD using MRI.
2006	Invited Speaker	Advances in ADHD Research- International Congress Istanbul, Turkey (07/12/06) Title: Selective Structural Deficiencies of Cortical Networks for Attention and Executive Function in Adults with Attention Deficit-Hyperactivity Disorder using MRI.
2007	Invited Speaker	XIII International ESCAP Congress “Bridging the Gaps” Florence, Italy (08/28/07) Title: Structural Deficiencies in Adults with ADHD with ADHD with and without Comorbid Bipolar Disorder using MRI.

2008	Invited Speaker	XIV World Congress of Psychiatry Prague, Czech Republic (09/25-28/08) Title: Altered Cortical Netwoks in Adults with ADHD using T1-Weighted and DT-MRI.
2009	Invited Speaker	9th World Congress of Biological Psychiatry Paris, France (06/28/09) Title: Frontal lobe cortical-limbic deficiencies in adults with ADHD with ADHD comorbid with bipolar disorder: A cortical thickness MRI analysis.
2009	Invited Speaker	Donders Institute Nijmegen, The Netherlands (11/17/09) Title: Cortical Neural Systems Abnormalities in adults with ADHD and ADHD plus BPD comorbidity.
2010	Invited Speaker	Targetted Expert Meeting-Child and Adolescent Neuropharmacology Amsterdam, The Nederlands (08/27/10) Title: Neuroimaging in ADHD.
2011	Invited Speaker	XV World Congress of Psychiatry Buenos Aires, Argentina (09/18-22) Title: Brain correlates of ADHD behaviors in medication-naïve adults with ADHD: a controlled MRI study
2012	Invited Speaker	International Symposium of fMRI study on Brain effects of acupuncture Beijing, China (06/14) Title: The integrated response of the human cerebro-cerebellar and limbic systems to acupuncture stimulation at ST36 as evidenced by fMRI
2013	Invited Speaker	ADHD Worldwide – The 1st Joint Meeting Tel Aviv, Israel (02/126-28) Title: Towards defining the neural substrates of ADHD: a controlled structural MRI study in medicaition-naïve adults
2014	Invited Speaker	COGNITIVE 2014 – The Sixth International Conference on Advanced Cognitive Technologies and Applications Venice, Italy (05/25-29) Title: Imaging in Cognitive and Clinical Neuroscience

Professional Leadership Roles Related to Teaching

1985-1989	Lecturer	Course in Acoustic Physics Institute of Medical Physics, School of Allied Health Professions, University of Siena, Siena, Italy
1987-1989	Lecturer	Effects of Electromagnetic Fields on Biosystems School of Posturography and Biomagnetism, UFR-Paris-Nord,

		Bobigny, France
1999	Teaching Fellow	HST 130/Neurobiology 200 Neuroanatomy Lab section HMS & Massachusetts Institute of Technology Boston, MA
2000	Lab Instructor	Human Nervous System and Behavior Course HMS Boston, MA
2000	Lab Instructor	RUNN course Marine Biology Laboratory (MBL) Woods Hole, MA
2001	Lab Instructor	RUNN course Marine Biology Laboratory (MBL) Woods Hole, MA
2004	Invited Speaker	Cold Spring Harbor Laboratory: Brain Architecture Cold Spring Harbor, NY (09/24/2004). Title: Studying Neural Systems with Neuroimaging.
2006	Invited Speaker	The Banbury Center, Cold Spring Harbor Laboratory Cold Spring Harbor, NY New York, (4/2006) Title: Neural Systems Analysis in Humans using MRI.
2007	Invited Speaker	The Banbury Center, Cold Spring Harbor Laboratory Cold Spring Harbor, NY New York, (5/21/2007) Title: White Matter Analyses: A Systems Perspective using Multimodal Imaging.
2010	Course Director	Anatomical-Numerical Models of Brain and non-Brain Tissues and their Medical Applications Department of Psychiatry, MGH Boston, MA

Report of Scholardship

Publications

Peer-Reviewed Publications

1. Di Massa A, Vigliano R, Ianniello L, Nami R, Lucani B, **Makris N**, Rigato M. Prostaglandin (PGE2) plasma level during magnetotherapy. *Acts Accademia dei Fisiocritici of Siena* 1986; XV(V): 145-148.
2. Rigato M, **Makris N**, Fortunato M. A method for measurments in vivo of skin viscoelasticity. *Acts Accademia dei Fisiocritici of Siena* 1987; XV(VI): 125-128.
3. Rigato M, **Makris N**, Fortunato M. Method of measuring in vivo the skin Young's modulus. *Acts Accademia dei Fisiocritici of Siena* 1987; XV(VI): 121-124.
4. Rigato M, Fortunato M, **Makris N**. Comparisons of mathematical models for rotational method of measuring in vivo skin Young's modulus. *Acts Accademia dei Fisiocritici of Siena* 1987; XV(VI): 49-52.
5. Rigato M, **Makris N**. On measurements of skin elasticity in vivo by Graham's method. *Acts Accademia dei Fisiocritici of Siena* 1987; XV(VI): 27-31.
6. **Makris N**, Rigato M, Fortunato M, Criscuolo S, DiMassa A. Neurophysiological aspects of the placebo effect during antalgic therapy. *Acts Accademia dei Fisiocritici of Siena* 1988; XV(VII): 95-98.
7. Caplan D, Gow D, **Makris N**. Analysis of lesions by MRI in stroke patients with acoustic-phonetic processing deficits. *Neurology*. 1995 Feb;45(2):293-298. PubMed PMID: 7854528.
8. Caviness VS Jr, Kennedy DN, **Makris N**, Bates J. Advanced application of magnetic resonance imaging in human brain science. *Brain Dev*. 1995 Nov-Dec;17(6):399-408. PubMed PMID: 8747418.
9. Caplan D, Hildebrandt N, **Makris N**. Location of lesions in stroke patients with deficits in syntactic processing in sentence comprehension. *Brain*. 1996 Jun;119 (Pt 3):933-949. PubMed PMID: 8673503.
10. Caviness VS Jr, Meyer J, **Makris N**, Kennedy DN. MRI-Based Topographic Parcellation of Human Neocortex: An Anatomically Specified Method with Estimate of Reliability. *J Cogn Neurosci*. 1996 Nov;8(6):566-587. PubMed PMID: 23961985.
11. Breiter HC, Gollub RL, Weisskoff RM, Kennedy DN, **Makris N**, Berke JD, Goodman JM, Kantor HL, Gastfriend DR, Riorden JP, Mathew RT, Rosen BR, Hyman SE. Acute effects of cocaine on human brain activity and emotion. *Neuron*. 1997 Sep;19(3):591-611. PubMed PMID: 9331351.
12. Seidman LJ, Faraone SV, Goldstein JM, Goodman JM, Kremen WS, Matsuda G, Hoge EA, Kennedy D, **Makris N**, Caviness VS, Tsuang MT. Reduced subcortical brain volumes in nonpsychotic siblings of schizophrenic patients: a pilot magnetic resonance imaging study. *Am J Med Genet*. 1997 Sep 19;74(5):507-514. PubMed PMID: 9342202.
13. **Makris N**, Worth AJ, Sorensen AG, Papadimitriou GM, Wu O, Reese TG, Wedeen VJ, Davis TL, Stakes JW, Caviness VS, Kaplan E, Rosen BR, Pandya DN, Kennedy DN. Morphometry of in vivo human white matter association pathways with diffusion-weighted magnetic resonance imaging. *Ann Neurol*. 1997 Dec;42(6):951-962. PubMed PMID: 9403488.
14. Worth AJ, **Makris N**, Caviness VS, Kennedy DN. Neuroanatomical Segmentation in MRI: Technological Objectives. *Int J Pattern Recogn*. 1997 Dec; 11(8):1161-1187. doi: 10.1142/S0218001497000548
15. Grachev ID, Breiter HC, Rauch SL, Savage CR, Baer L, Shera DM, Kennedy DN, **Makris N**, Caviness VS, Jenike MA. Structural abnormalities of frontal neocortex in obsessive-compulsive disorder. *Arch Gen Psychiatry*. 1998 Feb;55(2):181-182. PubMed PMID: 9477933.
16. Vaina LM, **Makris N**, Kennedy D, Cowey A. The selective impairment of the perception of first-order motion by unilateral cortical brain damage. *Vis Neurosci*. 1998 Mar-Apr;15(2):333-348. PubMed PMID: 9605533.

17. Worth AJ, **Makris N**, Patti MR, Goodman JM, Hoge EA, Caviness VS Jr, Kennedy DN. Precise segmentation of the lateral ventricles and caudate nucleus in MR brain images using anatomically driven histograms. *IEEE Trans Med Imaging*. 1998 Apr;17(2):303-310. PubMed PMID: 9688163.
18. Kennedy DN, Lange N, **Makris N**, Bates J, Meyer J, Caviness VS Jr. Gyri of the human neocortex: an MRI-based analysis of volume and variance. *Cereb Cortex*. 1998 Jun;8(4):372-384. PubMed PMID: 9651132.
19. Gollub RL, Breiter HC, Kantor H, Kennedy D, Gastfriend D, Mathew RT, **Makris N**, Guimaraes A, Riorden J, Campbell T, Foley M, Hyman SE, Rosen B, Weisskoff R. Cocaine decreases cortical cerebral blood flow but does not obscure regional activation in functional magnetic resonance imaging in human subjects. *J Cereb Blood Flow Metab*. 1998 Jul;18(7):724-734. PubMed PMID: 9663502.
20. Worth AJ, **Makris N**, Meyer JW, Caviness VS Jr, Kennedy DN. Semiautomatic segmentation of brain exterior in magnetic resonance images driven by empirical procedures and anatomical knowledge. *Med Image Anal*. 1998 Dec;2(4):315-324. PubMed PMID: 10072199.
21. Jenkins BG, Chen YI, Kuestermann E, **Makris NM**, Nguyen TV, Kraft E, Brownell AL, Rosas HD, Kennedy DN, Rosen BR, Koroshetz WJ, Beal MF. An integrated strategy for evaluation of metabolic and oxidative defects in neurodegenerative illness using magnetic resonance techniques. *Ann N Y Acad Sci*. 1999;893:214-242. PubMed PMID: 10672240.
22. Meyer JW, **Makris N**, Bates JF, Caviness VS, Kennedy DN. MRI-Based topographic parcellation of human cerebral white matter. *Neuroimage*. 1999 Jan;9(1):1-17. PubMed PMID: 9918725.
23. **Makris N**, Meyer JW, Bates JF, Yeterian EH, Kennedy DN, Caviness VS. MRI-Based topographic parcellation of human cerebral white matter and nuclei II Rationale and applications with systematics of cerebral connectivity. *Neuroimage*. 1999 Jan;9(1):18-45. PubMed PMID: 9918726.
24. Goldstein JM, Goodman JM, Seidman LJ, Kennedy DN, **Makris N**, Lee H, Tourville J, Caviness VS Jr, Faraone SV, Tsuang MT. Cortical abnormalities in schizophrenia identified by structural magnetic resonance imaging. *Arch Gen Psychiatry*. 1999 Jun;56(6):537-547. PubMed PMID: 10359468.
25. Caviness VS Jr, Lange NT, **Makris N**, Herbert MR, Kennedy DN. MRI-based brain volumetrics: emergence of a developmental brain science. *Brain Dev*. 1999 Jul;21(5):289-295. PubMed PMID: 10413014.
26. Seidman LJ, Faraone SV, Goldstein JM, Goodman JM, Kremen WS, Toomey R, Tourville J, Kennedy D, **Makris N**, Caviness VS, Tsuang MT. Thalamic and amygdala-hippocampal volume reductions in first-degree relatives of patients with schizophrenia: an MRI-based morphometric analysis. *Biol Psychiatry*. 1999 Oct 1;46(7):941-954. PubMed PMID: 10509177.
27. Kennedy DN, O'Craven KM, Ticho BS, Goldstein AM, **Makris N**, Henson JW. Structural and functional brain asymmetries in human situs inversus totalis. *Neurology*. 1999 Oct 12;53(6):1260-1265. PubMed PMID: 10522882.
28. Hui KK, Liu J, **Makris N**, Gollub RL, Chen AJ, Moore CI, Kennedy DN, Rosen BR, Kwong KK. Acupuncture modulates the limbic system and subcortical gray structures of the human brain: evidence from fMRI studies in normal subjects. *Hum Brain Mapp*. 2000;9(1):13-25. PubMed PMID: 10643726.
29. Caviness VS Jr, **Makris N**, Lange NT, Herbert M, Kennedy DN. Advanced applications of MRI in human brain science. *Keio J Med*. 2000 Jun;49(2):66-73. PubMed PMID: 10900831.
30. Rauch SL, Kim H, **Makris N**, Cosgrove GR, Cassem EH, Savage CR, Price BH, Nierenberg AA, Shera D, Baer L, Buchbinder B, Caviness VS Jr, Jenike MA, Kennedy DN. Volume reduction in the caudate nucleus following stereotactic placement of lesions in the anterior cingulate cortex in humans: a morphometric magnetic resonance imaging study. *J Neurosurg*. 2000 Dec;93(6):1019-1025. PubMed PMID: 11117844.
31. Rauch SL, **Makris N**, Cosgrove GR, Kim H, Cassem EH, Price BH, Baer L, Savage CR, Caviness VS Jr, Jenike MA, Kennedy DN. A magnetic resonance imaging study of regional cortical volumes following

stereotactic anterior cingulotomy. *CNS Spectr*. 2001 Mar;6(3):214-222. PubMed PMID: 16951656.
32. Poellinger A, Thomas R, Lio P, Lee A, **Makris N**, Rosen BR, Kwong KK. Activation and habituation in olfaction--an fMRI study. *Neuroimage*. 2001 Apr;13(4):547-560. PubMed PMID: 11305885.
33. Goldstein JM, Seidman LJ, Horton NJ, **Makris N**, Kennedy DN, Caviness VS Jr, Faraone SV, Tsuang MT. Normal sexual dimorphism of the adult human brain assessed by in vivo magnetic resonance imaging. *Cereb Cortex*. 2001 Jun;11(6):490-497. PubMed PMID: 11375910.
34. Rosas HD, Goodman J, Chen YI, Jenkins BG, Kennedy DN, **Makris N**, Patti M, Seidman LJ, Beal MF, Koroshetz WJ. Striatal volume loss in HD as measured by MRI and the influence of CAG repeat. *Neurology*. 2001 Sep 25;57(6):1025-1028. PubMed PMID: 11571328.
35. Fischl B, Salat DH, Busa E, Albert M, Dieterich M, Haselgrove C, van der Kouwe A, Killiany R, Kennedy D, Klaveness S, Montillo A, **Makris N**, Rosen B, Dale AM. Whole brain segmentation: automated labeling of neuroanatomical structures in the human brain. *Neuron*. 2002 Jan 31;33(3):341-355. PubMed PMID: 11832223.
36. Goldstein JM, Seidman LJ, O'Brien LM, Horton NJ, Kennedy DN, **Makris N**, Caviness VS Jr, Faraone SV, Tsuang MT. Impact of normal sexual dimorphisms on sex differences in structural brain abnormalities in schizophrenia assessed by magnetic resonance imaging. *Arch Gen Psychiatry*. 2002 Feb;59(2):154-164. PubMed PMID: 11825137.
37. Kennedy DN, **Makris N**, Herbert MR, Takahashi T, Caviness VS Jr. Basic principles of MRI and morphometry studies of human brain development. *Developmental science*. 2002; 5(3): 268-278.
38. **Makris N**, Pandya DN, Normandin JJ, Papadimitriou GM, Rauch SL, Caviness VS, Kennedy DN. Diffusion Tensor-MRI Investigations of the Human Cingulum Bundle. *CNS Spectrums*. 2002 Jul; 7(7): 522-528.
39. Seidman LJ, Faraone SV, Goldstein JM, Kremen WS, Horton NJ, **Makris N**, Toomey R, Kennedy D, Caviness VS, Tsuang MT. Left hippocampal volume as a vulnerability indicator for schizophrenia: a magnetic resonance imaging morphometric study of nonpsychotic first-degree relatives. *Arch Gen Psychiatry*. 2002 Sep;59(9):839-849. PubMed PMID: 12215084.
40. DaSilva AF, Becerra L, **Makris N**, Strassman AM, Gonzalez RG, Geatrakis N, Borsook D. Somatotopic activation in the human trigeminal pain pathway. *J Neurosci*. 2002 Sep 15;22(18):8183-8192. PubMed PMID: 12223572.
41. Tuch DS, Reese TG, Wiegell MR, **Makris N**, Belliveau JW, Wedeen VJ. High angular resolution diffusion imaging reveals intravoxel white matter fiber heterogeneity. *Magn Reson Med*. 2002 Oct;48(4):577-582. PubMed PMID: 12353272.
42. Herbert MR, Harris GJ, Adrien KT, Ziegler DA, **Makris N**, Kennedy DN, Lange NT, Chabris CF, Bakardjiev A, Hodgson J, Takeoka M, Tager-Flusberg H, Caviness VS Jr. Abnormal asymmetry in language association cortex in autism. *Ann Neurol*. 2002 Nov;52(5):588-596. PubMed PMID: 12402256.
43. Caviness VS, **Makris N**, Montinaro E, Sahin NT, Bates JF, Schwamm L, Caplan D, Kennedy DN. Anatomy of stroke, Part I: an MRI-based topographic and volumetric System of analysis. *Stroke*. 2002 Nov;33(11):2549-2556. PubMed PMID: 12411641.
44. Caviness VS, **Makris N**, Montinaro E, Sahin NT, Bates JF, Schwamm L, Caplan D, Kennedy DN. Anatomy of stroke, Part II: volumetric characteristics with implications for the local architecture of the cerebral perfusion system. *Stroke*. 2002 Nov;33(11):2557-2564. PubMed PMID: 12411642.
45. Seidman LJ, Pantelis C, Keshavan MS, Faraone SV, Goldstein JM, Horton NJ, **Makris N**, Falkai P, Caviness VS, Tsuang MT. A review and new report of medial temporal lobe dysfunction as a vulnerability indicator for schizophrenia: a magnetic resonance imaging morphometric family study of the parahippocampal gyrus. *Schizophr Bull*. 2003;29(4):803-830. PubMed PMID: 14989416.
46. Rauch SL, Phillips KA, Segal E, **Makris N**, Shin LM, Whalen PJ, Jenike MA, Caviness VS Jr, Kennedy DN. A preliminary morphometric magnetic resonance imaging study of regional brain volumes in body

dysmorphic disorder. *Psychiatry Res*. 2003 Jan 20;122(1):13-19. PubMed PMID: 12589879.
47. Takeoka M, Kim F, Caviness VS Jr, Kennedy DN, **Makris N**, Holmes GL. MRI volumetric analysis in rasmussen encephalitis: a longitudinal study. *Epilepsia*. 2003 Feb;44(2):247-251. PubMed PMID: 12558582.
48. Faraone SV, Seidman LJ, Kremen WS, Kennedy D, **Makris N**, Caviness VS, Goldstein J, Tsuang MT. Structural brain abnormalities among relatives of patients with schizophrenia: implications for linkage studies. *Schizophr Res*. 2003 Apr 1;60(2-3):125-140. PubMed PMID: 12591577.
49. Herbert MR, Ziegler DA, Deutsch CK, O'Brien LM, Lange N, Bakardjiev A, Hodgson J, Adrien KT, Steele S, **Makris N**, Kennedy D, Harris GJ, Caviness VS Jr. Dissociations of cerebral cortex, subcortical and cerebral white matter volumes in autistic boys. *Brain*. 2003 May;126(Pt 5):1182-1192. PubMed PMID: 12690057.
50. **Makris N**, Hodge SM, Haselgrove C, Kennedy DN, Dale A, Fischl B, Rosen BR, Harris G, Caviness VS Jr, Schmahmann JD. Human cerebellum: surface-assisted cortical parcellation and volumetry with magnetic resonance imaging. *J Cogn Neurosci*. 2003 May 15;15(4):584-599. PubMed PMID: 12803969.
51. Rauch SL, Shin LM, Segal E, Pitman RK, Carson MA, McMullin K, Whalen PJ, **Makris N**. Selectively reduced regional cortical volumes in post-traumatic stress disorder. *Neuroreport*. 2003 May 23;14(7):913-916. PubMed PMID: 12802174.
52. Rosas HD, Koroshetz WJ, Chen YI, Skeuse C, Vangel M, Cudkowicz ME, Caplan K, Marek K, Seidman LJ, **Makris N**, Jenkins BG, Goldstein JM. Evidence for more widespread cerebral pathology in early HD: an MRI-based morphometric analysis. *Neurology*. 2003 May 27;60(10):1615-1620. PubMed PMID: 12771251.
53. Herbert MR, Ziegler DA, **Makris N**, Bakardjiev A, Hodgson J, Adrien KT, Kennedy, DN, Filipek PA, Caviness VS. Larger brain and white matter volumes in children with developmental language disorder. *Developmental Science*. 2003 Sep; 6(4):F11–F22. doi: 10.1111/1467-7687.00291
54. Takahashi T, Kinsman S, **Makris N**, Grant E, Haselgrove C, McInerney S, Kennedy DN, Takahashi T, Fredrickson K, Mori S, Caviness VS. Semilobar holoprosencephaly with midline 'seam': a topologic and morphogenetic model based upon MRI analysis. *Cereb Cortex*. 2003 Dec;13(12):1299-1312. PubMed PMID: 14615296.
55. Fischl B, van der Kouwe A, Destrieux C, Halgren E, Ségonne F, Salat DH, Busa E, Seidman LJ, Goldstein J, Kennedy D, Caviness V, **Makris N**, Rosen B, Dale AM. Automatically parcellating the human cerebral cortex. *Cereb Cortex*. 2004 Jan;14(1):11-22. PubMed PMID: 14654453.
56. Shin LM, Shin PS, Heckers S, Krangel TS, Macklin ML, Orr SP, Lasko N, Segal E, **Makris N**, Richert K, Levering J, Schacter DL, Alpert NM, Fischman AJ, Pitman RK, Rauch SL. Hippocampal function in posttraumatic stress disorder. *Hippocampus*. 2004;14(3):292-300. PubMed PMID: 15132428.
57. Takahashi TS, Kinsman S, **Makris N**, Grant E, Haselgrove C, McInerney S, Kennedy DN, Takahashi TA, Fredrickson K, Mori S, Caviness VS. Holoprosencephaly--topologic variations in a liveborn series: a general model based upon MRI analysis. *J Neurocytol*. 2004 Jan;33(1):23-35. PubMed PMID: 15173630.
58. Fischl B, Salat DH, van der Kouwe AJ, **Makris N**, Ségonne F, Quinn BT, Dale AM. Sequence-independent segmentation of magnetic resonance images. *Neuroimage*. 2004;23 Suppl 1:S69-84. PubMed PMID: 15501102.
59. Herbert MR, Ziegler DA, **Makris N**, Filipek PA, Kemper TL, Normandin JJ, Sanders HA, Kennedy DN, Caviness VS Jr. Localization of white matter volume increase in autism and developmental language disorder. *Ann Neurol*. 2004 Apr;55(4):530-540. PubMed PMID: 15048892.
60. Takeoka M, Riviello JJ Jr, Duffy FH, Kim F, Kennedy DN, **Makris N**, Caviness VS Jr, Holmes GL. Bilateral volume reduction of the superior temporal areas in Landau-Kleffner syndrome. *Neurology*. 2004 Oct 12;63(7):1289-1292. PubMed PMID: 15477555.

61. **Makris N**, Gasic GP, Seidman LJ, Goldstein JM, Gastfriend DR, Elman I, Albaugh MD, Hodge SM, Ziegler DA, Sheahan FS, Caviness VS Jr, Tsuang MT, Kennedy DN, Hyman SE, Rosen BR, Breiter HC. Decreased absolute amygdala volume in cocaine addicts. *Neuron*. 2004 Nov 18;44(4):729-740. PubMed PMID: 15541319.
62. De Fossé L, Hodge SM, **Makris N**, Kennedy DN, Caviness VS Jr, McGrath L, Steele S, Ziegler DA, Herbert MR, Frazier JA, Tager-Flusberg H, Harris GJ. Language-association cortex asymmetry in autism and specific language impairment. *Ann Neurol*. 2004 Dec;56(6):757-766. PubMed PMID: 15478219.
63. Herbert MR, Ziegler DA, Deutsch CK, O'Brien LM, Kennedy DN, Filipek PA, Bakardjiev AI, Hodgson J, Takeoka M, **Makris N**, Caviness VS Jr. Brain asymmetries in autism and developmental language disorder: a nested whole-brain analysis. *Brain*. 2005 Jan;128(Pt 1):213-226. PubMed PMID: 15563515.
64. Fjell AM, Walhovd KB, Reinvang I, Lundervold A, Dale AM, Quinn BT, **Makris N**, Fischl B. Age does not increase rate of forgetting over weeks--neuroanatomical volumes and visual memory across the adult life-span. *J Int Neuropsychol Soc*. 2005 Jan;11(1):2-15. PubMed PMID: 15686603.
65. Walhovd KB, Fjell AM, Reinvang I, Lundervold A, Fischl B, Salat D, Quinn BT, **Makris N**, Dale AM. Cortical volume and speed-of-processing are complementary in prediction of performance intelligence. *Neuropsychologia*. 2005;43(5):704-713. PubMed PMID: 15721183.
66. Napadow V, Dhond RP, Purdon P, Kettner N, **Makris N**, Kwong KK, Hui KK. Correlating acupuncture FMRI in the human brainstem with heart rate variability. *Conf Proc IEEE Eng Med Biol Soc*. 2005;5:4496-4499. PubMed PMID: 17281236.
67. Napadow V, **Makris N**, Liu J, Kettner NW, Kwong KK, Hui KK. Effects of electroacupuncture versus manual acupuncture on the human brain as measured by fMRI. *Hum Brain Mapp*. 2005 Mar;24(3):193-205. PubMed PMID: 15499576.
68. **Makris N**, Schlerf JE, Hodge SM, Haselgrove C, Albaugh MD, Seidman LJ, Rauch SL, Harris G, Biederman J, Caviness VS Jr, Kennedy DN, Schmahmann JD. MRI-based surface-assisted parcellation of human cerebellar cortex: an anatomically specified method with estimate of reliability. *Neuroimage*. 2005 May 1;25(4):1146-1160. PubMed PMID: 15850732.
69. **Makris N**, Caviness VS, Kennedy DN. An introduction to MR imaging-based stroke morphometry. *Neuroimaging Clin N Am*. 2005 May;15(2):325-339, x. PubMed PMID: 16198943.
70. **Makris N**, Kennedy DN, McInerney S, Sorensen AG, Wang R, Caviness VS Jr, Pandya DN. Segmentation of subcomponents within the superior longitudinal fascicle in humans: a quantitative, in vivo, DT-MRI study. *Cereb Cortex*. 2005 Jun;15(6):854-869. PubMed PMID: 15590909.
71. Strauss MM, **Makris N**, Aharon I, Vangel MG, Goodman J, Kennedy DN, Gasic GP, Breiter HC. fMRI of sensitization to angry faces. *Neuroimage*. 2005 Jun;26(2):389-413. PubMed PMID: 15907298.
72. Seidman LJ, Valera EM, **Makris N**. Structural brain imaging of attention-deficit/hyperactivity disorder. *Biol Psychiatry*. 2005 Jun 1;57(11):1263-1272. PubMed PMID: 15949998.
73. Frazier JA, Chiu S, Breeze JL, **Makris N**, Lange N, Kennedy DN, Herbert MR, Bent EK, Koneru VK, Dieterich ME, Hodge SM, Rauch SL, Grant PE, Cohen BM, Seidman LJ, Caviness VS, Biederman J. Structural brain magnetic resonance imaging of limbic and thalamic volumes in pediatric bipolar disorder. *Am J Psychiatry*. 2005 Jul;162(7):1256-1265. PubMed PMID: 15994707.
74. Goldstein JM, Jerram M, Poldrack R, Anagnoson R, Breiter HC, **Makris N**, Goodman JM, Tsuang MT, Seidman LJ. Sex differences in prefrontal cortical brain activity during fMRI of auditory verbal working memory. *Neuropsychology*. 2005 Jul;19(4):509-519. PubMed PMID: 16060826.
75. Hui KK, Liu J, Marina O, Napadow V, Haselgrove C, Kwong KK, Kennedy DN, **Makris N**. The integrated response of the human cerebro-cerebellar and limbic systems to acupuncture stimulation at ST 36 as evidenced by fMRI. *Neuroimage*. 2005 Sep;27(3):479-496. PubMed PMID: 16046146.
76. Walhovd KB, Fjell AM, Reinvang I, Lundervold A, Dale AM, Eilertsen DE, Quinn BT, Salat D, **Makris N**, Fischl B. Effects of age on volumes of cortex, white matter and subcortical structures. *Neurobiol*

Aging. 2005 Oct;26(9):1261-1270; discussion 1275-1278. PubMed PMID: 16005549.
77. Goldstein JM, Jerram M, Poldrack R, Ahern T, Kennedy DN, Seidman LJ, **Makris N**. Hormonal cycle modulates arousal circuitry in women using functional magnetic resonance imaging. *J Neurosci*. 2005 Oct 5;25(40):9309-9316. PubMed PMID: 16207891.
78. Frazier JA, Breeze JL, **Makris N**, Giuliano AS, Herbert MR, Seidman L, Biederman J, Hodge SM, Dieterich ME, Gerstein ED, Kennedy DN, Rauch SL, Cohen BM, Caviness VS. Cortical gray matter differences identified by structural magnetic resonance imaging in pediatric bipolar disorder. *Bipolar Disord*. 2005 Dec;7(6):555-569. PubMed PMID: 16403181; PubMed Central PMCID: PMC2072813.
79. Tramo MJ, Cariani PA, Koh CK, **Makris N**, Braida LD. Neurophysiology and neuroanatomy of pitch perception: auditory cortex. *Ann N Y Acad Sci*. 2005 Dec;1060:148-174. PubMed PMID: 16597761.
80. **Makris N**, Goldstein JM, Kennedy D, Hodge SM, Caviness VS, Faraone SV, Tsuang MT, Seidman LJ. Decreased volume of left and total anterior insular lobule in schizophrenia. *Schizophr Res*. 2006 Apr;83(2-3):155-171. PubMed PMID: 16448806.
81. Walhovd KB, Fjell AM, Reinvang I, Lundervold A, Fischl B, Quinn BT, **Makris N**, Dale AM. The functional and structural significance of the frontal shift in the old/new ERP effect. *Brain Res*. 2006 Apr 7;1081(1):156-170. PubMed PMID: 16542641.
82. O'Brien LM, Ziegler DA, Deutsch CK, Kennedy DN, Goldstein JM, Seidman LJ, Hodge S, **Makris N**, Caviness V, Frazier JA, Herbert MR. Adjustment for whole brain and cranial size in volumetric brain studies: a review of common adjustment factors and statistical methods. *Harv Rev Psychiatry*. 2006 May-Jun;14(3):141-151. PubMed PMID: 16787886.
83. Walhovd KB, Fjell AM, Dale AM, Fischl B, Quinn BT, **Makris N**, Salat D, Reinvang I. Regional cortical thickness matters in recall after months more than minutes. *Neuroimage*. 2006 Jul 1;31(3):1343-1351. PubMed PMID: 16540346.
84. Desai M, Kennedy DN, Mangoubi R, Shah J, Karl C, Worth A, **Makris N**, Pien H. Model-based variational smoothing and segmentation for diffusion tensor imaging in the brain. *Neuroinformatics*. 2006 Summer;4(3):217-234. PubMed PMID: 16943628.
85. Han X, Jovicich J, Salat D, van der Kouwe A, Quinn B, Czanner S, Busa E, Pacheco J, Albert M, Killiany R, Maguire P, Rosas D, **Makris N**, Dale A, Dickerson B, Fischl B. Reliability of MRI-derived measurements of human cerebral cortical thickness: the effects of field strength, scanner upgrade and manufacturer. *Neuroimage*. 2006 Aug 1;32(1):180-194. PubMed PMID: 16651008.
86. Blood AJ, Tuch DS, **Makris N**, Makhlouf ML, Sudarsky LR, Sharma N. White matter abnormalities in dystonia normalize after botulinum toxin treatment. *Neuroreport*. 2006 Aug 21;17(12):1251-1255. PubMed PMID: 16951564; PubMed Central PMCID: PMC3039124.
87. Napadow V, Dhond R, Kennedy D, Hui KK, **Makris N**. Automated brainstem co-registration (ABC) for MRI. *Neuroimage*. 2006 Sep;32(3):1113-1119. PubMed PMID: 16839781.
88. Nishida M, **Makris N**, Kennedy DN, Vangel M, Fischl B, Krishnamoorthy KS, Caviness VS, Grant PE. Detailed semiautomated MRI based morphometry of the neonatal brain: preliminary results. *Neuroimage*. 2006 Sep;32(3):1041-1049. PubMed PMID: 16857388.
89. **Makris N**, Kaiser J, Haselgrove C, Seidman LJ, Biederman J, Boriel D, Valera EM, Papadimitriou GM, Fischl B, Caviness VS Jr, Kennedy DN. Human cerebral cortex: a system for the integration of volume- and surface-based representations. *Neuroimage*. 2006 Oct 15;33(1):139-153. PubMed PMID: 16920366.
90. Seidman LJ, Valera EM, **Makris N**, Monuteaux MC, Boriel DL, Kelkar K, Kennedy DN, Caviness VS, Bush G, Aleardi M, Faraone SV, Biederman J. Dorsolateral prefrontal and anterior cingulate cortex volumetric abnormalities in adults with attention-deficit/hyperactivity disorder identified by magnetic resonance imaging. *Biol Psychiatry*. 2006 Nov 15;60(10):1071-1080. PubMed PMID: 16876137.
91. Cannistraro PA, **Makris N**, Howard JD, Wedig MM, Hodge SM, Wilhelm S, Kennedy DN, Rauch SL.

A diffusion tensor imaging study of white matter in obsessive-compulsive disorder. *Depress Anxiety*. 2007;24(6):440-446. PubMed PMID: 17096398.

92. Keuthen NJ, **Makris N**, Schlerf JE, Martis B, Savage CR, McMullin K, Seidman LJ, Schmahmann JD, Kennedy DN, Hodge SM, Rauch SL. Evidence for reduced cerebellar volumes in trichotillomania. *Biol Psychiatry*. 2007 Feb 1;61(3):374-381. PubMed PMID: 16945351.
93. Walder DJ, Seidman LJ, **Makris N**, Tsuang MT, Kennedy DN, Goldstein JM. Neuroanatomic substrates of sex differences in language dysfunction in schizophrenia: a pilot study. *Schizophr Res*. 2007 Feb;90(1-3):295-301. PubMed PMID: 17150336; PubMed Central PMCID: PMC1894895.
94. Yu P, Grant PE, Qi Y, Han X, Ségonne F, Pienaar R, Busa E, Pacheco J, **Makris N**, Buckner RL, Golland P, Fischl B. Cortical surface shape analysis based on spherical wavelets. *IEEE Trans Med Imaging*. 2007 Apr;26(4):582-597. PubMed PMID: 17427744.
95. Goldstein JM, Seidman LJ, **Makris N**, Ahern T, O'Brien LM, Caviness VS Jr, Kennedy DN, Faraone SV, Tsuang MT. Hypothalamic abnormalities in schizophrenia: sex effects and genetic vulnerability. *Biol Psychiatry*. 2007 Apr 15;61(8):935-945. PubMed PMID: 17046727.
96. Caplan D, Waters G, Kennedy D, Alpert N, **Makris N**, Dede G, Michaud J, Reddy A. A study of syntactic processing in aphasia II: neurological aspects. *Brain Lang*. 2007 May;101(2):151-177. PubMed PMID: 16997366.
97. **Makris N**, Biederman J, Valera EM, Bush G, Kaiser J, Kennedy DN, Caviness VS, Faraone SV, Seidman LJ. Cortical thinning of the attention and executive function networks in adults with attention-deficit/hyperactivity disorder. *Cereb Cortex*. 2007 Jun;17(6):1364-1375. PubMed PMID: 16920883.
98. Kan IP, Giovanello KS, Schnyer DM, **Makris N**, Verfaellie M. Role of the medial temporal lobes in relational memory: neuropsychological evidence from a cued recognition paradigm. *Neuropsychologia*. 2007 Jun 18;45(11):2589-2597. PubMed PMID: 17433382; PubMed Central PMCID: PMC1986641.
99. Napadow V, Kettner N, Liu J, Li M, Kwong KK, Vangel M, **Makris N**, Audette J, Hui KK. Hypothalamus and amygdala response to acupuncture stimuli in Carpal Tunnel Syndrome. *Pain*. 2007 Aug;130(3):254-266. PubMed PMID: 17240066; PubMed Central PMCID: PMC1997288.
100. **Makris N**, Papadimitriou GM, Sorg S, Kennedy DN, Caviness VS, Pandya DN. The occipitofrontal fascicle in humans: a quantitative, in vivo, DT-MRI study. *Neuroimage*. 2007 Oct 1;37(4):1100-1111. PubMed PMID: 17681797; PubMed Central PMCID: PMC3769215.
101. **Makris N**, Papadimitriou GM, van der Kouwe A, Kennedy DN, Hodge SM, Dale AM, Benner T, Wald LL, Wu O, Tuch DS, Caviness VS, Moore TL, Killiany RJ, Moss MB, Rosene DL. Frontal connections and cognitive changes in normal aging rhesus monkeys: a DTI study. *Neurobiol Aging*. 2007 Oct;28(10):1556-1567. PubMed PMID: 16962214.
102. Hui KK, Nixon EE, Vangel MG, Liu J, Marina O, Napadow V, Hodge SM, Rosen BR, **Makris N**, Kennedy DN. Characterization of the "deqi" response in acupuncture. *BMC Complement Altern Med*. 2007 Oct 31;7:33. PubMed PMID: 17973984; PubMed Central PMCID: PMC2200650.
103. Ahn MS, Breeze JL, **Makris N**, Kennedy DN, Hodge SM, Herbert MR, Seidman LJ, Biederman J, Caviness VS, Frazier JA. Anatomic brain magnetic resonance imaging of the basal ganglia in pediatric bipolar disorder. *J Affect Disord*. 2007 Dec;104(1-3):147-154. PubMed PMID: 17532475.
104. Frazier JA, Breeze JL, Papadimitriou G, Kennedy DN, Hodge SM, Moore CM, Howard JD, Rohan MP, Caviness VS, **Makris N**. White matter abnormalities in children with and at risk for bipolar disorder. *Bipolar Disord*. 2007 Dec;9(8):799-809. PubMed PMID: 18076529.
105. Frazier JA, Hodge SM, Breeze JL, Giuliano AJ, Terry JE, Moore CM, Kennedy DN, Lopez-Larson MP, Caviness VS, Seidman LJ, Zablotsky B, **Makris N**. Diagnostic and sex effects on limbic volumes in early-onset bipolar disorder and schizophrenia. *Schizophr Bull*. 2008 Jan;34(1):37-46. PubMed PMID: 18003631; PubMed Central PMCID: PMC2632388.
106. Bush G, Spencer TJ, Holmes J, Shin LM, Valera EM, Seidman LJ, **Makris N**, Surman C, Aleardi M,

Mick E, Biederman J. Functional magnetic resonance imaging of methylphenidate and placebo in attention-deficit/hyperactivity disorder during the multi-source interference task. *Arch Gen Psychiatry*. 2008 Jan;65(1):102-114. PubMed PMID: 18180434.

107. **Makris N**, Buka SL, Biederman J, Papadimitriou GM, Hodge SM, Valera EM, Brown AB, Bush G, Monuteaux MC, Caviness VS, Kennedy DN, Seidman LJ. Attention and executive systems abnormalities in adults with childhood ADHD: A DT-MRI study of connections. *Cereb Cortex*. 2008 May;18(5):1210-1220. PubMed PMID: 17906338.
108. Harris GJ, Jaffin SK, Hodge SM, Kennedy D, Caviness VS, Marinkovic K, Papadimitriou GM, **Makris N**, Oscar-Berman M. Frontal white matter and cingulum diffusion tensor imaging deficits in alcoholism. *Alcohol Clin Exp Res*. 2008 Jun;32(6):1001-1013. PubMed PMID: 18422840.
109. Pienaar R, Fischl B, Caviness V, **Makris N**, Grant PE. A methodology for analyzing curvature in the developing brain from preterm to adult. *Int J Imaging Syst Technol*. 2008 Jun 1;18(1):42-68. PubMed PMID: 19936261; PubMed Central PMCID: PMC2779548.
110. Biederman J, **Makris N**, Valera EM, Monuteaux MC, Goldstein JM, Buka S, Boriel DL, Bandyopadhyay S, Kennedy DN, Caviness VS, Bush G, Aleardi M, Hammerness P, Faraone SV, Seidman LJ. Towards further understanding of the co-morbidity between attention deficit hyperactivity disorder and bipolar disorder: a MRI study of brain volumes. *Psychol Med*. 2008 Jul;38(7):1045-1056. PubMed PMID: 17935640.
111. **Makris N**, Oscar-Berman M, Jaffin SK, Hodge SM, Kennedy DN, Caviness VS, Marinkovic K, Breiter HC, Gasic GP, Harris GJ. Decreased volume of the brain reward system in alcoholism. *Biol Psychiatry*. 2008 Aug 1;64(3):192-202. PubMed PMID: 18374900; PubMed Central PMCID: PMC2572710.
112. Napadow V, Dhond R, Conti G, **Makris N**, Brown EN, Barbieri R. Brain correlates of autonomic modulation: combining heart rate variability with fMRI. *Neuroimage*. 2008 Aug 1;42(1):169-177. PubMed PMID: 18524629; PubMed Central PMCID: PMC2603289.
113. Perlis RH, Holt DJ, Smoller JW, Blood AJ, Lee S, Kim BW, Lee MJ, Sun M, **Makris N**, Kennedy DK, Rooney K, Dougherty DD, Hoge R, Rosenbaum JF, Fava M, Gusella J, Gasic GP, Breiter HC, Phenotype Genotype Project on Addiction and Mood Disorders. Association of a polymorphism near CREB1 with differential aversion processing in the insula of healthy participants. *Arch Gen Psychiatry*. 2008 Aug;65(8):882-892. PubMed PMID: 18678793; PubMed Central PMCID: PMC3782742.
114. Puls I, Mohr J, Wrase J, Priller J, Behr J, Kitzrow W, **Makris N**, Breiter HC, Obermayer K, Heinz A. Synergistic effects of the dopaminergic and glutamatergic system on hippocampal volume in alcohol-dependent patients. *Biol Psychol*. 2008 Sep;79(1):126-136. PubMed PMID: 18423838.
115. Wrase J, **Makris N**, Braus DF, Mann K, Smolka MN, Kennedy DN, Caviness VS, Hodge SM, Tang L, Albaugh M, Ziegler DA, Davis OC, Kissling C, Schumann G, Breiter HC, Heinz A. Amygdala volume associated with alcohol abuse relapse and craving. *Am J Psychiatry*. 2008 Sep;165(9):1179-1184. PubMed PMID: 18593776.
116. **Makris N**, Gasic GP, Kennedy DN, Hodge SM, Kaiser JR, Lee MJ, Kim BW, Blood AJ, Evins AE, Seidman LJ, Iosifescu DV, Lee S, Baxter C, Perlis RH, Smoller JW, Fava M, Breiter HC. Cortical thickness abnormalities in cocaine addiction--a reflection of both drug use and a pre-existing disposition to drug abuse?. *Neuron*. 2008 Oct 9;60(1):174-188. PubMed PMID: 18940597; PubMed Central PMCID: PMC3772717.
117. **Makris N**, Angelone L, Tulloch S, Sorg S, Kaiser J, Kennedy D, Bonmassar G. MRI-based anatomical model of the human head for specific absorption rate mapping. *Med Biol Eng Comput*. 2008 Dec;46(12):1239-1251. PubMed PMID: 18985401; PubMed Central PMCID: PMC2828153.
118. Monuteaux MC, Seidman LJ, Faraone SV, **Makris N**, Spencer T, Valera E, Brown A, Bush G, Doyle AE, Hughes S, Helliesen M, Mick E, Biederman J. A preliminary study of dopamine D4 receptor genotype and structural brain alterations in adults with ADHD. *Am J Med Genet B Neuropsychiatr*

Genet. 2008 Dec 5;147B(8):1436-1441. PubMed PMID: 18951431.
119. **Makris N**, Biederman J, Monuteaux MC, Seidman LJ. Towards conceptualizing a neural systems-based anatomy of attention-deficit/hyperactivity disorder. *Dev Neurosci*. 2009;31(1-2):36-49. PubMed PMID: 19372685; PubMed Central PMCID: PMC3777416.
120. **Makris N**, Pandya DN. The extreme capsule in humans and rethinking of the language circuitry. *Brain Struct Funct*. 2009 Feb;213(3):343-358. PubMed PMID: 19104833; PubMed Central PMCID: PMC3777634.
121. Lopez-Larson M, Michael ES, Terry JE, Breeze JL, Hodge SM, Tang L, Kennedy DN, Moore CM, **Makris N**, Caviness VS, Frazier JA. Subcortical differences among youths with attention-deficit/hyperactivity disorder compared to those with bipolar disorder with and without attention-deficit/hyperactivity disorder. *J Child Adolesc Psychopharmacol*. 2009 Feb;19(1):31-39. PubMed PMID: 19232021; PubMed Central PMCID: PMC2993054.
122. **Makris N**, Papadimitriou GM, Kaiser JR, Sorg S, Kennedy DN, Pandya DN. Delineation of the middle longitudinal fascicle in humans: a quantitative, in vivo, DT-MRI study. *Cereb Cortex*. 2009 Apr;19(4):777-785. PubMed PMID: 18669591; PubMed Central PMCID: PMC2651473.
123. Jovicich J, Czanner S, Han X, Salat D, van der Kouwe A, Quinn B, Pacheco J, Albert M, Killiany R, Blacker D, Maguire P, Rosas D, **Makris N**, Gollub R, Dale A, Dickerson BC, Fischl B. MRI-derived measurements of human subcortical, ventricular and intracranial brain volumes: Reliability effects of scan sessions, acquisition sequences, data analyses, scanner upgrade, scanner vendors and field strengths. *Neuroimage*. 2009 May 15;46(1):177-192. PubMed PMID: 19233293; PubMed Central PMCID: PMC2866077.
124. Napadow V, Dhond R, Park K, Kim J, **Makris N**, Kwong KK, Harris RE, Purdon PL, Kettner N, Hui KK. Time-variant fMRI activity in the brainstem and higher structures in response to acupuncture. *Neuroimage*. 2009 Aug 1;47(1):289-301. PubMed PMID: 19345268; PubMed Central PMCID: PMC2692758.
125. Hui KK, Marina O, Claunch JD, Nixon EE, Fang J, Liu J, Li M, Napadow V, Vangel M, **Makris N**, Chan ST, Kwong KK, Rosen BR. Acupuncture mobilizes the brain's default mode and its anti-correlated network in healthy subjects. *Brain Res*. 2009 Sep 1;1287:84-103. PubMed PMID: 19559684; PubMed Central PMCID: PMC3742122.
126. Gasic GP, Smoller JW, Perlis RH, Sun M, Lee S, Kim BW, Lee MJ, Holt DJ, Blood AJ, **Makris N**, Kennedy DK, Hoge RD, Calhoun J, Fava M, Gusella JF, Breiter HC. BDNF, relative preference, and reward circuitry responses to emotional communication. *Am J Med Genet B Neuropsychiatr Genet*. 2009 Sep 5;150B(6):762-781. PubMed PMID: 19388013.
127. Schaechter JD, Fricker ZP, Perdue KL, Helmer KG, Vangel MG, Greve DN, **Makris N**. Microstructural status of ipsilesional and contralesional corticospinal tract correlates with motor skill in chronic stroke patients. *Hum Brain Mapp*. 2009 Nov;30(11):3461-3474. PubMed PMID: 19370766; PubMed Central PMCID: PMC2780023.
128. **Makris N**, Seidman LJ, Valera EM, Biederman J, Monuteaux MC, Kennedy DN, Caviness VS Jr, Bush G, Crum K, Brown AB, Faraone SV. Anterior cingulate volumetric alterations in treatment-naïve adults with ADHD: a pilot study. *J Atten Disord*. 2010 Jan;13(4):407-413. PubMed PMID: 20008822; PubMed Central PMCID: PMC3746768.
129. Valera EM, Brown A, Biederman J, Faraone SV, **Makris N**, Monuteaux MC, Whitfield-Gabrieli S, Vitulano M, Schiller M, Seidman LJ. Sex differences in the functional neuroanatomy of working memory in adults with ADHD. *Am J Psychiatry*. 2010 Jan;167(1):86-94. PubMed PMID: 19884224; PubMed Central PMCID: PMC3777217.
130. Thermenos HW, Goldstein JM, Milanovic SM, Whitfield-Gabrieli S, **Makris N**, Laviolette P, Koch JK, Faraone SV, Tsuang MT, Buka SL, Seidman LJ. An fMRI study of working memory in persons with

bipolar disorder or at genetic risk for bipolar disorder. *Am J Med Genet B Neuropsychiatr Genet*. 2010 Jan 5;153B(1):120-131. PubMed PMID: 19418510; PubMed Central PMCID: PMC3762486.
131. Goldstein JM, Jerram M, Abbs B, Whitfield-Gabrieli S, **Makris N**. Sex differences in stress response circuitry activation dependent on female hormonal cycle. *J Neurosci*. 2010 Jan 13;30(2):431-438. PubMed PMID: 20071507; PubMed Central PMCID: PMC2827936.
132. **Makris N**, Kennedy DN, Boriel DL, Rosene DL. Methods of MRI-based structural imaging in the aging monkey. *Methods*. 2010 Mar;50(3):166-177. PubMed PMID: 19577648; PubMed Central PMCID: PMC3774020.
133. Hodge SM, **Makris N**, Kennedy DN, Caviness VS Jr, Howard J, McGrath L, Steele S, Frazier JA, Tager-Flusberg H, Harris GJ. Cerebellum, language, and cognition in autism and specific language impairment. *J Autism Dev Disord*. 2010 Mar;40(3):300-316. PubMed PMID: 19924522; PubMed Central PMCID: PMC3771698.
134. Kennedy DN, Haselgrove C, **Makris N**, Goldin DM, Lev MH, Caplan D, Caviness VS. WebParc: a tool for analysis of the topography and volume of stroke from MRI. *Med Biol Eng Comput*. 2010 Mar;48(3):215-228. PubMed PMID: 20077026; PubMed Central PMCID: PMC2848120.
135. Brown AB, Biederman J, Valera EM, Doyle AE, Bush G, Spencer T, Monuteaux MC, Mick E, Whitfield-Gabrieli S, **Makris N**, LaViolette PS, Oscar-Berman M, Faraone SV, Seidman LJ. Effect of dopamine transporter gene (SLC6A3) variation on dorsal anterior cingulate function in attention-deficit/hyperactivity disorder. *Am J Med Genet B Neuropsychiatr Genet*. 2010 Mar 5;153B(2):365-375. PubMed PMID: 19676101; PubMed Central PMCID: PMC2915441.
136. **Makris N**, Seidman LJ, Ahern T, Kennedy DN, Caviness VS, Tsuang MT, Goldstein JM. White matter volume abnormalities and associations with symptomatology in schizophrenia. *Psychiatry Res*. 2010 Jul 30;183(1):21-29. PubMed PMID: 20538438; PubMed Central PMCID: PMC2913317.
137. Valera EM, Spencer RM, Zeffiro TA, **Makris N**, Spencer TJ, Faraone SV, Biederman J, Seidman LJ. Neural substrates of impaired sensorimotor timing in adult attention-deficit/hyperactivity disorder. *Biol Psychiatry*. 2010 Aug 15;68(4):359-367. PubMed PMID: 20619827; PubMed Central PMCID: PMC2917236.
138. Rosso IM, **Makris N**, Thermenos HW, Hodge SM, Brown A, Kennedy D, Caviness VS, Faraone SV, Tsuang MT, Seidman LJ. Regional prefrontal cortex gray matter volumes in youth at familial risk for schizophrenia from the Harvard Adolescent High Risk Study. *Schizophr Res*. 2010 Oct;123(1):15-21. PubMed PMID: 20705433; PubMed Central PMCID: PMC2939267.
139. Blood AJ, Iosifescu DV, **Makris N**, Perlis RH, Kennedy DN, Dougherty DD, Kim BW, Lee MJ, Wu S, Lee S, Calhoun J, Hodge SM, Fava M, Rosen BR, Smoller JW, Gasic GP, Breiter HC, Phenotype Genotype Project on Addiction and Mood Disorders. Microstructural abnormalities in subcortical reward circuitry of subjects with major depressive disorder. *PLoS One*. 2010 Nov 29;5(11):e13945. PubMed PMID: 21124764; PubMed Central PMCID: PMC2993928.
140. Lopez-Larson M, Breeze JL, Kennedy DN, Hodge SM, Tang L, Moore C, Giuliano AJ, **Makris N**, Caviness VS, Frazier JA. Age-related changes in the corpus callosum in early-onset bipolar disorder assessed using volumetric and cross-sectional measurements. *Brain Imaging Behav*. 2010 Dec;4(3-4):220-231. PubMed PMID: 20686873; PubMed Central PMCID: PMC3711475.
141. Rosso IM, **Makris N**, Britton JC, Price LM, Gold AL, Zai D, Bruyere J, Deckersbach T, Killgore WD, Rauch SL. Anxiety sensitivity correlates with two indices of right anterior insula structure in specific animal phobia. *Depress Anxiety*. 2010 Dec;27(12):1104-1110. PubMed PMID: 21132846; PubMed Central PMCID: PMC3010373.
142. Iacono MI, **Makris N**, Mainardi L, Gale J, van der Kouwe A, Mareyam A, Polimeni JR, Wald LL, Fischl B, Eskandar EN, Bonmassar G. Atlas-based segmentation for globus pallidus internus targeting on low-resolution MRI. *Conf Proc IEEE Eng Med Biol Soc*. 2011;2011:5706-5709. PubMed PMID:

22255635; PubMed Central PMCID: PMC3791323.
143. Seidman LJ, Biederman J, Liang L, Valera EM, Monuteaux MC, Brown A, Kaiser J, Spencer T, Faraone SV, **Makris N**. Gray matter alterations in adults with attention-deficit/hyperactivity disorder identified by voxel based morphometry. *Biol Psychiatry*. 2011 May 1;69(9):857-866. PubMed PMID: 21183160; PubMed Central PMCID: PMC3940267.
144. Thermenos HW, **Makris N**, Whitfield-Gabrieli S, Brown AB, Giuliano AJ, Lee EH, Faraone SV, Tsuang MT, Seidman LJ. A functional MRI study of working memory in adolescents and young adults at genetic risk for bipolar disorder: preliminary findings. *Bipolar Disord*. 2011 May;13(3):272-286. PubMed PMID: 21676130; PubMed Central PMCID: PMC3822581.
145. Abbs B, Liang L, **Makris N**, Tsuang M, Seidman LJ, Goldstein JM. Covariance modeling of MRI brain volumes in memory circuitry in schizophrenia: Sex differences are critical. *Neuroimage*. 2011 Jun 15;56(4):1865-1874. PubMed PMID: 21497198; PubMed Central PMCID: PMC3113542.
146. Milanovic SM, Thermenos HW, Goldstein JM, Brown A, Gabrieli SW, **Makris N**, Tsuang MT, Buka SL, Seidman LJ. Medial prefrontal cortical activation during working memory differentiates schizophrenia and bipolar psychotic patients: a pilot FMRI study. *Schizophr Res*. 2011 Jul;129(2-3):208-210. PubMed PMID: 21440419; PubMed Central PMCID: PMC3775485.
147. Brown AB, Biederman J, Valera E, **Makris N**, Doyle A, Whitfield-Gabrieli S, Mick E, Spencer T, Faraone S, Seidman L. Relationship of DAT1 and adult ADHD to task-positive and task-negative working memory networks. *Psychiatry Res*. 2011 Jul 30;193(1):7-16. PubMed PMID: 21596533; PubMed Central PMCID: PMC3105199.
148. Agam Y, Hämäläinen MS, Lee AK, Dyckman KA, Friedman JS, Isom M, **Makris N**, Manoach DS. Multimodal neuroimaging dissociates hemodynamic and electrophysiological correlates of error processing. *Proc Natl Acad Sci U S A*. 2011 Oct 18;108(42):17556-17561. PubMed PMID: 21969565; PubMed Central PMCID: PMC3198335.
149. Blood AJ, Kuster JK, Woodman SC, Kirlic N, Makhlouf ML, Multhaupt-Buell TJ, **Makris N**, Parent M, Sudarsky LR, Sjalander G, Breiter H, Breiter HC, Sharma N. Evidence for altered basal ganglia-brainstem connections in cervical dystonia. *PLoS One*. 2012;7(2):e31654. PubMed PMID: 22384048; PubMed Central PMCID: PMC3285161.
150. Preti MG, **Makris N**, Laganà MM, Papadimitriou G, Baglio F, Griffanti L, Nemni R, Cecconi P, Westin CF, Baselli G. A novel approach of fMRI-guided tractography analysis within a group: construction of an fMRI-guided tractographic atlas. *Conf Proc IEEE Eng Med Biol Soc*. 2012;2012:2283-2286. PubMed PMID: 23366379.
151. Brown A, Biederman J, Valera E, Lomedico A, Aleardi M, **Makris N**, Seidman LJ. Working memory network alterations and associated symptoms in adults with ADHD and Bipolar Disorder. *J Psychiatr Res*. 2012 Apr;46(4):476-483. PubMed PMID: 22272986; PubMed Central PMCID: PMC3686289.
152. **Makris N**, Seidman LJ, Brown A, Valera EM, Kaiser JR, Petty CR, Liang L, Aleardi M, Boriel D, Henderson CS, Giddens M, Faraone SV, Spencer TJ, Biederman J. Further understanding of the comorbidity between Attention-Deficit/Hyperactivity Disorder and bipolar disorder in adults: an MRI study of cortical thickness. *Psychiatry Res*. 2012 Apr 30;202(1):1-11. PubMed PMID: 22640688; PubMed Central PMCID: PMC3380145.
153. Kennedy DN, Haselgrove C, Hodge SM, Rane PS, **Makris N**, Frazier JA. CANDIShare: a resource for pediatric neuroimaging data. *Neuroinformatics*. 2012 Jul;10(3):319-322. PubMed PMID: 22006352; PubMed Central PMCID: PMC3417225.
154. Holsen LM, Lawson EA, Blum J, Ko E, **Makris N**, Fazeli PK, Klibanski A, Goldstein JM. Food motivation circuitry hypoactivation related to hedonic and nonhedonic aspects of hunger and satiety in women with active anorexia nervosa and weight-restored women with anorexia nervosa. *J Psychiatry Neurosci*. 2012 Sep;37(5):322-332. PubMed PMID: 22498079; PubMed Central PMCID:

PMC3447131.
155. Joffe H, Deckersbach T, Lin NU, **Makris N**, Skaar TC, Rauch SL, Dougherty DD, Hall JE. Metabolic activity in the insular cortex and hypothalamus predicts hot flashes: an FDG-PET study. *J Clin Endocrinol Metab*. 2012 Sep;97(9):3207-3215. PubMed PMID: 22723326; PubMed Central PMCID: PMC3791433.
156. Iacono MI, **Makris N**, Mainardi L, Angelone LM, Bonmassar G. MRI-based multiscale model for electromagnetic analysis in the human head with implanted DBS. *Comput Math Methods Med*. 2013;2013:694171. PubMed PMID: 23956789; PubMed Central PMCID: PMC3727211.
157. Wassermann D, **Makris N**, Rathi Y, Shenton M, Kikinis R, Kubicki M, Westin CF. On describing human white matter anatomy: the white matter query language. *Med Image Comput Comput Assist Interv*. 2013;16(Pt 1):647-654. PubMed PMID: 24505722; PubMed Central PMCID: PMC4029160.
158. Bush G, Holmes J, Shin LM, Surman C, **Makris N**, Mick E, Seidman LJ, Biederman J. Atomoxetine increases fronto-parietal functional MRI activation in attention-deficit/hyperactivity disorder: a pilot study. *Psychiatry Res*. 2013 Jan 30;211(1):88-91. PubMed PMID: 23146254; PubMed Central PMCID: PMC3557757.
159. Asami T, Saito Y, Whitford TJ, **Makris N**, Niznikiewicz M, McCarley RW, Shenton ME, Kubicki M. Abnormalities of middle longitudinal fascicle and disorganization in patients with schizophrenia. *Schizophr Res*. 2013 Feb;143(2-3):253-259. PubMed PMID: 23290607; PubMed Central PMCID: PMC3587354.
160. **Makris N**, Swaab DF, van der Kouwe A, Abbs B, Boriel D, Handa RJ, Tobet S, Goldstein JM. Volumetric parcellation methodology of the human hypothalamus in neuroimaging: normative data and sex differences. *Neuroimage*. 2013 Apr 1;69:1-10. PubMed PMID: 23247186; PubMed Central PMCID: PMC3575213.
161. Kikinis Z, **Makris N**, Finn CT, Bouix S, Lucia D, Coleman MJ, Tworog-Dube E, Kikinis R, Kucherlapati R, Shenton ME, Kubicki M. Genetic contributions to changes of fiber tracts of ventral visual stream in 22q112 deletion syndrome. *Brain Imaging Behav*. 2013 Apr 24; PubMed PMID: 23612843; PubMed Central PMCID: PMC3796180.
162. Napadow V, Sheehan J, Kim J, Dassatti A, Thurler AH, Surjanhata B, Vangel M, **Makris N**, Schaechter JD, Kuo B. Brain white matter microstructure is associated with susceptibility to motion-induced nausea. *Neurogastroenterol Motil*. 2013 May;25(5):448-450, e303. PubMed PMID: 23360260; PubMed Central PMCID: PMC3631298.
163. **Makris N**, Preti MG, Wassermann D, Rathi Y, Papadimitriou GM, Yergatian C, Dickerson BC, Shenton ME, Kubicki M. Human middle longitudinal fascicle: segregation and behavioral-clinical implications of two distinct fiber connections linking temporal pole and superior temporal gyrus with the angular gyrus or superior parietal lobule using multi-tensor tractography. *Brain Imaging Behav*. 2013 May 18;PubMed PMID: 23686576; PubMed Central PMCID: PMC3830590.
164. **Makris N**, Preti MG, Asami T, Pelavin P, Campbell B, Papadimitriou GM, Kaiser J, Baselli G, Westin CF, Shenton ME, Kubicki M. Human middle longitudinal fascicle: variations in patterns of anatomical connections. *Brain Struct Funct*. 2013 Jul;218(4):951-968. PubMed PMID: 22782432; PubMed Central PMCID: PMC3500586.
165. Choe MS, Ortiz-Mantilla S, **Makris N**, Gregas M, Bacic J, Haehn D, Kennedy D, Pienaar R, Caviness VS Jr, Benasich AA, Grant PE. Regional infant brain development: an MRI-based morphometric analysis in 3 to 13 month olds. *Cereb Cortex*. 2013 Sep;23(9):2100-2117. PubMed PMID: 22772652; PubMed Central PMCID: PMC3729199.
166. Spencer TJ, Brown A, Seidman LJ, Valera EM, **Makris N**, Lomedico A, Faraone SV, Biederman J. Effect of psychostimulants on brain structure and function in ADHD: a qualitative literature review of magnetic resonance imaging-based neuroimaging studies. *J Clin Psychiatry*. 2013 Sep;74(9):902-917.

PubMed PMID: 24107764; PubMed Central PMCID: PMC3801446.
167. Pascual B, Masdeu JC, Hollenbeck M, **Makris N**, Insausti R, Ding SL, Dickerson BC. Large-Scale Brain Networks of the Human Left Temporal Pole: A Functional Connectivity MRI Study. *Cereb Cortex*. 2013 Sep 24;PubMed PMID: 24068551.
168. Thermenos HW, Keshavan MS, Juelich RJ, Molokotos E, Whitfield-Gabrieli S, Brent BK, **Makris N**, Seidman LJ. A review of neuroimaging studies of young relatives of individuals with schizophrenia: A developmental perspective from schizotaxia to schizophrenia. *Am J Med Genet B Neuropsychiatr Genet*. 2013 Oct;162(7):604-635. PubMed PMID: 24132894.
169. **Makris N**, Liang L, Biederman J, Valera EM, Brown AB, Petty C, Spencer TJ, Faraone SV, Seidman LJ. Toward Defining the Neural Substrates of ADHD: A Controlled Structural MRI Study in Medication-Naive Adults. *J Atten Disord*. 2013 Nov 4;PubMed PMID: 24189200; PubMed Central PMCID: PMC4009385.
170. Yang JC, Ginat DT, Dougherty DD, **Makris N**, Eskandar EN. Lesion analysis for cingulotomy and limbic leucotomy: comparison and correlation with clinical outcomes. *J Neurosurg*. 2014 Jan;120(1):152-163. doi: 10.3171/2013.9.JNS13839. PubMed PMID: 24236652; PubMed Central PMCID: PMC3990280.
171. Rathi Y, Pasternak O, Savadjiev P, Michailovich O, Bouix S, Kubicki M, Westin CF, **Makris N**, Shenton ME. Gray matter alterations in early aging: A diffusion magnetic resonance imaging study. *Hum Brain Mapp*. 2014 Aug;35(8):3841-56. doi: 10.1002/hbm.22441. Epub 2013 Dec 31. PubMed PMID: 24382651; PubMed Central PMCID: PMC4101075.
172. Preti MG, **Makris N**, Papadimitriou G, Laganà MM, Griffanti L, Clerici M, Nemni R, Westin CF, Baselli G, Baglio F. A novel approach of groupwise fMRI-guided tractography allowing to characterize the clinical evolution of Alzheimer's disease. *PLoS One*. 2014 Mar 17;9(3):e92026. doi: 10.1371/journal.pone.0092026. eCollection 2014. PubMed PMID: 24637718; PubMed Central PMCID: PMC3956891.
173. Bonmassar G, **Makris N**. The Virtual Patient Simulator of Deep Brain Stimulation in the Obsessive Compulsive Disorder Based on Connectome and 7 Tesla MRI Data. *COGNITIVE 2014*, The Sixth International Conference on Advanced Cognitive Technologies and Applications. 2014 (in press)
174. Hüttlova J, Kikinis Z, Kerkovsky M, Bouix S, Vu MA, **Makris N**, Shenton M, Kasparek T. Abnormalities in myelination of the superior cerebellar peduncle in patients with schizophrenia and deficits in movement sequencing. *Cerebellum*. 2014 Aug;13(4):415-24. doi: 10.1007/s12311-014-0550-y. PubMed PMID: 24550129.
175. Gilman JM, Kuster JK, Lee S, Lee MJ, Kim BW, **Makris N**, van der Kouwe A, Blood AJ, Breiter HC. Cannabis use is quantitatively associated with nucleus accumbens and amygdala abnormalities in young adult recreational users. *J Neurosci*. 2014 Apr 16;34(16):5529-5538. doi: 10.1523/JNEUROSCI.4745-13.2014. PubMed PMID: 24741043; PubMed Central PMCID: PMC3988409.
176. Akyuz N, Kekatpure MV, Liu J, Sheinkopf SJ, Quinn BT, Lala MD, Kennedy D, **Makris N**, Lester BM, Kosofsky BE. Structural brain imaging in children and adolescents following prenatal cocaine exposure: preliminary longitudinal findings. *Dev Neurosci*. 2014;36(3-4):316-328. doi: 10.1159/000362685. Epub 2014 Jul 1. PubMed PMID: 24994509; PubMed Central PMCID: PMC4125447.
177. Yang JC, Papadimitriou G, Eckbo R, Yeterian EH, Liang L, Dougherty DD, Bouix S, Rathi Y, Shenton M, Kubicki M, Eskandar EN, **Makris N**. Multi-tensor investigation of orbitofrontal cortex tracts affected in subcaudate tractotomy. *Brain Imaging Behav*. 2014 Aug 8. [Epub ahead of print] PubMed PMID: 25103312.
178. Jacobs EG, Holsen LM, Lancaster K, **Makris N**, Whitfield-Gabrieli S, Remington A, Weiss B, Buka S,

Klibanski A, Goldstein JM. 17β-Estradiol Differentially Regulates Stress Circuitry Activity in Healthy and Depressed Women. *Neuropsychopharmacology*. 2014 Aug 12. doi: 10.1038/npp.2014.203. [Epub ahead of print] PubMed PMID: 25113601.

179. Shenton ME, Kubicki M, **Makris N**. Understanding alterations in brain connectivity in attention-deficit/hyperactivity disorder using imaging connectomics. *Biol Psychiatry*. 2014 Oct 15;76(8):601-2. doi: 10.1016/j.biopsych.2014.08.018. PubMed PMID: 25262232.

Reviews

1. Caviness VS, Kennedy DN, **Makris N**, Bates J. Advanced application of magnetic resonance imaging in human brain science. *Brain Development*, 1995; 17 (6): 399-408.

2. Seidman LJ, Pantelis C, Keshavan MS, Faraone SV, Goldstein JM, Horton NJ, **Makris N**, Falkai P, Caviness VS, Tsuang MT. A review and new report of medial temporal lobe dysfunction as a vulnerability indicator for schizophrenia: a magnetic resonance imaging morphometric family study of the parahippocampal gyrus. *Schizophrenia Bulletin*. 2003; 29(4): 803-830.

3. Seidman LJ, Valera EM, and **Makris N**. Structural Brain Imaging of Attention-Deficit/Hyperactivity Disorder. *Biological Psychiatry*. 2005; 57: 1263-1272.

4. **Makris N**. On language circuitry. *Medical Chronicles of North-Western Greece* (Iatrika Chronika Boreioditikis Ellados) 2010; 6: 47-50.

Book Chapters

1. Kennedy DN, **Makris N**, Bates JF, Caviness VS. Structural Morphometry in the Developing Brain. In Develop. Neuroimaging, Edited by: Thatcher RW, Lyon GR, Rumsey J, Krasnegor N. *Academic Press*; 1997. p 3-14.

2. Caviness VS, Kennedy DN, Bates JF, **Makris N**. The Developing Brain: A Morphometric Profile. In Developmental Neuroimaging, Edited by: Thatcher RW, Lyon GR, Rumsey J, Krasnegor N. *Academic Press*; 1997. p. 29-41.

3. **Makris N**, Papadimitriou GM, Worth AJ, Jenkins BG, Garrido L, Sorensen AG, Wedeen VJ, Tuch DS, Wu O, Cudkowicz ME, Caviness VS, Rosen BR, Kennedy DN. Diffusion Tensor Imaging. *Neuropharmacology: The Fifth Generation of Progress*, Vol. 3 (27), Lippincott Williams & Wilkins, 2002. p. 357-371.
4. Breiter H, Gasic G, **Makris N.** Imaging the neural systems for motivated behavior and their dysfunction in neuropsychiatric illness. *Complex Systems Science in Biomedicine*, 2006. p.763-809.

5. **Makris N**, Caviness VS, Kennedy DN. An Introduction to MR Imaging-based Stroke Morphometry. *Neuroimaging Clin N Am.* 2005; 15(2):325-339.

Proceedings of Meetings

1. Worth AJ, **Makris N**, Meyer JW, Caviness VS Jr., Kennedy DN. Automated Segmentation of Brain Exterior in MR Images Driven by Empirical Procedures and Anatomical Knowledge. In Proceedings of the XIVth International Conference on Information Processing in Medical Imaging. New York: Springer, 1997: 99-112.
2. Iacono MI, **Makris N**, Mainardi L, Gale J, van der Kouwe A, Mareyam A, Polimeni JR, Wald LL, Fischl B, Eskandar EN, Bonmassar G. Atlas-based segmentation for globus pallidus internus targeting on low-resolution MRI. Conf Proc IEEE Eng Med Biol Soc. 2011; 2011:5706-9. doi: 10.1109/IEMBS.2011.6091381.
3. Preti MG, **Makris N**, Laganà MM, Papadimitriou G, Baglio F, Griffanti L, Nemni R, Cecconi P, Westin CF, Baselli G. A novel approach of fMRI-guided tractography analysis within a group: construction of an fMRI-guided tractographic atlas. Conf Proc IEEE Eng Med Biol Soc. 2012;2012:2283-6. doi: 10.1109/EMBC.2012.6346418.

Theses

1. La popolazione cellulare delle lesioni periapicali croniche nell' uomo: caratterizzazione istochimica all' alfa- naftil-acetato-esterasi. Department of Human Normal Anatomy; University of Siena; Italy; 1985. Thesis for M.D. degree.

2. Ricerche preliminari sulla terapia antalgica della lombalgia mediante campi elettromagnetici variabili a bassa frequenza e sull' associato effetto placebo, tramite un procedimento in doppio cieco. Department of Anesthesioliogy and Intensive Care; University of Siena; Italy; 1989. Thesis for degree in Anesthesiology and Intensive Care.

3. Analisi morphometrica cerebrale umana basata sulla risonanza magnetica e parcellazione corticale: Metodologia ed applicazioni nel campo delle neuroscienze cliniche e sperimentali. Department of Neural and Mental Disorders; University of Siena; Italy; 1994. Thesis for degree in Psychiatry.

4. Delineation of Human Association Fiber Pathways using Histologic and Magnetic Resonance Methodologies; Department of Behavioral Neuroscience; Boston University School of Medicine; 1999. Thesis for Ph.D. degree.

Narrative Report

I am a neuroanatomist and imager and my work is principally on quantitative neuroanatomy and the development of imaging methodologies that translate basic brain science in clinical psychiatry and neurology.

Area of Excellence: Investigation

My principal accomplishments are in the fields of structural and functional brain imaging and imaging method development to solve problems in brain structure and function in studying aging and neuropsychiatric conditions such as neurodegeneration, drug addiction, psychosis and stroke. In 1997, I validated the diffusion tensor imaging (DTI) methodology based on the traditional and established anatomy of fiber pathways in humans and

showed for the first time the association corticocortical fiber tracts in the human brain *in vivo* (Makris et al., 1997). The color-coding model of my team at MGH has envisioned and established for DTI in 1997, what has become a prevailing convention in the field of DTI. A few years later my team using DTI tractography, discovered a novel long association fiber tract in humans, which we named middle longitudinal fascicle (MdLF) (Makris, et al., 2008, 2012). The MdLF and extreme capsule (EmC) (Makris and Pandya, 2008) are intimately associated with language function. Combining the MdLF along with a DTI-based description of the EmC we proposed an alternative schema of language circuitry (Makris and Pandya, 2008), which complemented the traditional language model, proposed by Wernicke (1874) and Geschwind (1965).

Teaching

As supervisor and teacher in neuroanatomy and imaging I teach within and outside of Harvard, nationally and internationally, including Italy and Spain. I provide direct supervision to fellows, collaborating clinicians and scientists, students and technicians in these areas. Further, I have been involved over many years in course work, seminars and academic presentations locally, nationally and internationally presenting my work in leading scientific congresses. I have been a mentor to several pre- and post-doctoral fellows and research assistants that went to graduate or medical schools and developed successful careers. In 2010, I co-Directed a four-week course titled “Anatomical-Numerical Models of Brain and non-Brain Tissues and their Medical Applications” at Massachusetts General Hospital (MGH), scheduled also for April 2014.

Supporting Activity: Administrative and Institutional Services

As the Director of the Center for Morphometric Analysis (CMA), which is dedicated to the study of brain organization in development through aging in the healthy brain and diseased states, I support a multitude of collaborative projects across the Departments of Neurology, Psychiatry and Radiology at Massachusetts General Hospital as well as other hospitals within the Harvard system and other institutions nationally and internationally. As the Director of the MGH Morphometric Analysis Center Core and the co-Founder and co-Director of the Center for Neural Systems *investigations* (CNS*i*), I support collaborative studies in neural systems biology using imaging in basic and clinical neuroscience. I also serve as a member of the MGH Institutional Review Board.

Summary

I am nationally and internationally known in the field of neuroimaging where I have achieved significant discoveries. I also have a leadership role in teaching and mentoring and as administrative director of centers and programs.