CURRICULUM VITAE

NAME: Helen Barbas

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Boston University
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EDUCATION:

Post-doctoral (Neuroanatomy) Harvard Medical School, Boston, MA., 1978-1981
Ph.D. (Physiology/Neurophysiology), McGill University, Montreal, P.Q., 1979
M.S. (Psychobiology), Kansas State University, Manhattan, KS., 1974
B.A. (Liberal Arts), Kean College, Union N.J., 1972

APPOINTMENTS:

Professor, Dept. of Health Sci., Boston Univ., 1998 - present.
Professor, Dept. Anat. and Neurobiol., Boston Univ. Sch. Med., 1998- present.
Affiliated faculty, Cognitive and Neural Systems, Boston University.
Program in Neuroscience, Steering Committee member, Boston Univ. and Sch. Medicine.
Lecturer in Neurology, Harvard Medical School
Affiliated Scientist, New England Primate Research Center, Harvard Med. Sch., 1992 - present.
Visiting Assoc. Prof., Lab. of Mol. and Cell. Neurosci., (Greengard lab), Rockefeller Univ. 1989-1990.
Associate Professor, Department of Health Sciences, Boston University, 1987- 1998.
Assistant Professor, Department of Health Sciences. Boston University, 1981-1987.
Assistant Professor, Dept. Anatomy, Boston Univ. Med. Sch., 1983-1998.
Research Fellow in Neurology - Harvard Medical School, Beth Israel Hospital, December 1978 - August, 1981.

FELLOWSHIPS AND GRANTS:

(includes only those where HB is the P.I.)
Autistm Speaks, 2008-2010
NIH/NINDS, 2005-2010
NIH/NIMH, 1/1/2005-12/31/2009
NIH/NINDS, 2001-2005
NIH/NIMH, 1999-2004
National Institutes of Health Grant, 1987-2,001 (3 sequential grants).
Accelerated Res. Gr., Boston Univ., 1994.

National Science Foundation Grant, 1984-1987.
BRSG, Boston University, 1981-1982, 1982-1983, 1987-1988, 1990.
N.I.H. NRSA fellowship, 1981.
N.I.H. Traineeship, Harvard Medical School, Dec. 1978-Dec. 1980.
Faculty of Medicine Fellowship, McGill University, 1978.
University Fellowship, McGill University, 1977-1978; Summer fellowship, 1976.
Medical Research Council Scholarship, McGill University, 1975-1977.
Foreign Exchange Student Scholarship, Kean College, 1968-1972.
Fulbright Scholarship, 1968-1972.

Sponsor: Autistm Speaks Fellowship for Dr. Basilis Zikopoulos, 2008-2010
NIMH fellowship for Dr. Nancy Rempel-Clower, 1996-1998.
Fulbright fellowship for Dr. Caterina Dermon, 1990.

HONORS:

Ph.D. thesis, honorary Dean's list, McGill University
B.A. summa cum laude, Kean College
Psi Chi
Liberal Arts and Sciences Honor Society, Kean College
Fulbright Scholar
Rodin Remediation Foundation (member)
Award of Merit, SAR, Boston University, May 20, 2001

PROFESSIONAL ORGANIZATION MEMBERSHIP AND SERVICE:

Society for Neuroscience
International Brain Research Organization
Montreal Physiological Society
American Association for the Advancement of Science
National Coalition for Science and Technology
IFCN 7 Study Section, Ad hoc reviewer, 2004.
COG Study Section member, Ad hoc Reviewer, 2004.
COG Study Section member, 2004-2007.
IFCN 8 Study Section, Ad hoc reviewer, October, 2007.
Review Panel, Cure Autism Now, 2005-2006.
Cold Spring Harbor. Brain Architecture advisory board, 2005-present.
Editorial board: Cerebral Cortex, 2005-
Editorial board: Brain Structure and Function, 2006-
Section Editor: Brain Structure and Function, 2007-
Review board: Frontiers in Neuroanatomy, 2007-
Associate Editor: European Journal of Neuroscience, 2008-
Soc. Neurosci., Informatics Committee, 2006-2008.
Ad Hoc Reviewer: J. Comp. Neurol.; Cerebral Cortex; Eur. J. Neurosci.; J. Neurosci.; Exp. Brain Res.; Neuroscience; Brain Res.; Exp. Neurol.; Nature Neurosci.; J.

Neurophysiol., Behav. Brain Res., BMC Neuroscience; NeuroImage: PNAS; J. Cogn. Neurosci. Hippocampus; Behav. Brain Res. Cambridge Univ. Press (book), and others. The National Science Foundation; NIH (National Institute of Aging; NICHHD; NIMH); The Leakey Foundation; The Wellcome Trust (UK); The Guggenheim Foundation. Keck Foundation, reviewer; The NRC (Canada). BU Alzheimer's Disease Center Internal Scientific Review Committee, 2000- present.
NIH grants, unpaid consultant (Mass General Hosp; Yale Univ., UCSD)
Neurosci. Program, Univ. Crete, board of evaluators.

RESEARCH INTERESTS:

Organization of the prefrontal cortex; patterns of neural interactions; computational neuroscience; evolution of the neocortex; neural basis of cognitive-emotional interactions.

UNIVERSITY SERVICE:
Program in Neuroscience, steering committee
UROP, undergraduate student grant reviewer
Faculty Council, Curriculum and Academic Policy Committee
Dept. Health Sciences, admissions committee
Boston University Strategic Planning
UAPT (University)

TEACHING INTERESTS:

Cerebral Cortex; Principles of Neuroscience; Neural Systems; Neuroanatomy.

COURSES TAUGHT:
Seminar on Neurophysiology (HS 755 - themes of topics for different years: Motor processes; development and plasticity in the nervous system; neurochemical organization of the nervous system; principles of organization of the cerebral cortex); **Gross Human Anatomy** (HS 369, 581); **Advanced Regional Anatomy** (HS 745); **Basic Neuroscience** (MED ME 778 - conduction and transmission, excitation and inhibition in CNS); **Advanced Anatomy and Physiology** (HS 701 - conduction and transmission; excitation and inhibition; peripheral and central control of motor processes); **Advanced Neuroanatomy** (sections of MED ME 702); **Neural Systems (HS 550). Neuroanatomy/Neurophysiology** (HS 370, 582). **Readings in Neuroscience** (HS 755). **Cellular and Systems Neuroscience** (lectures in BI 755); **Systems and Cognitive Neuroscience** (lectures in PS 738/BI 756). **Human Neuroanatomy: from development to neurodegeneration** (1.5 days of lectures in 1800). Karolinska Institute, February 20-21, 2006; October 11-12, 2006.

PUBLICATIONS

Xiao, D., Zikopoulos, B. and Barbas, H. Laminar and modular organization of prefrontal projections to multiple thalamic nuclei. Neuroscience 161: 1067–1081, 2009.

Medalla, M. and Barbas, H. Synaptic specializations with inhibitory neurons differentiate anterior cingulate from dorsolateral prefrontal pathways associated with cognitive control. Neuron 61: 609-620, 2009.

Bohland, J. Caizhi Wu, Barbas, H., Bokil, H. Bota, M. Breiter, H.C. Cline, H.T. , Doyle, J.C., J. Freed, P.J., Greenspan, R.J., Haber, S.N., Hawrylycz, M., Herrera, D.G., Hilgetag, C.C., Huang, Z.J., Jones, A., Jones, E.G., Karten, H.J., Kleinfeld, D., Kötter, R., Lester, H.A., Lin, J.M., Mensh, B.D., Mikula, S., Panksepp, J., Price, J.L., Safdieh, J., Saper, C.B., Schiff, N.D., Schmahmann, J.D., Stillman, B.W., Svoboda, K., Swanson, L.W., Toga, A.W., Van Essen, D.C., Watson, J.D., Mitra, P.P. A proposal for a coordinated effort for the determination of brainwide neuroanatomical connectivity in model organisms at a mesoscopic scale. PLoS Computational Biology, 2009, in press.

Hilgetag, C.C. and Barbas, H. Sculpting the brain. Scientific American 300, Number 2, 66-71. February 2009.

Hilgetag, C.C. and Barbas, H. Are there ten times more glia than neurons in the brain? Brain Structure and Function, 2009, in press.

Barbas, H. Prefrontal Cortex: Structure and Anatomy. In: Squire LR (ed.) Encyclopedia of Neuroscience, volume 7, Oxford: Academic Press. pp. 909-918, 2009.

Hoistad, M. and Barbas. Sequence of information processing for emotions through pathways linking temporal and insular cortices with the amygdala. NeuroImage 40: 1016-1033, 2008.

Wang, X-J., Barbas, H. and Knight, R.T. Dynamic landscape of the frontal lobe: a tribute to Patricia S. Goldman-Rakic. Cerebral Cortex 17: 114-15, 2007.

Hilgetag, C. C. and Barbas, H. Why does the outer surface of the brain have folds? Response in: Scientific American Mind, June/July 2007, p86.

Zikopoulos, B. and Barbas, H. Parallel driving and modulatory pathways link the prefrontal cortex and thalamus. PLoS ONE 2(9): e848, 2007.

Barbas, H. Specialized elements of orbitofrontal cortex in primates Annals of the New York Academy of Sciences 1121:10-32, 2007.

Fiala, J.C., Feinberg, M., Peters, A. and Barbas, H. Mitochondrial degeneration in dystrophic neurites of senile plaques may lead to extracellular deposition of fine filaments. Brain Structure and Function 212: 195-207, 2007.

Barbas, H. and Zikopoulos, B. The prefrontal cortex and flexible behavior. The Neuroscientist 13: 532-545, 2007.

Medalla, M., Lera, P., Feinberg, M. and Barbas, H. Specificity in inhibitory systems associated with prefrontal pathways to temporal cortex in primates. Cerebral Cortex 17 Supplement 1: i136-i150, 2007.

Barbas, H. Flow of information for emotions through temporal and orbitofrontal pathways. J. Anatomy 211: 237-249, 2007.

Zikopoulos, B. and Barbas, H. Circuits for multisensory integration and attentional modulation through the prefrontal cortex and the thalamic reticular nucleus in primates. Reviews in the Neurosciences 18: 1-25, 2007.

Ghashghaei, H.T., Hilgetag, C.C., and Barbas, H. Sequence of information processing for emotions based on the anatomic dialogue between prefrontal cortex and amygdala. NeuroImage 34: 905-923, 2007. (E-pub ahead of print, 2006).

Barbas, H. Organization of the principal pathways of prefrontal laeral, medial, and orbitofrontal cortices in primates and implications for their collaborative interaction in executive functions. In: The Frontal Lobes: Development, Function, and Pathology, J. Risberg and J. Grafman (eds). Ch. 2, pages 21-68. 2006, Cambridge University Press.

Barbas, H. And Zikopoulos, B. Sequential and parallel circuits for emotional processing in primate orbitofrontal cortex. In: The Orbitofrontal Cortex. D.H. Zald and S.L. Rauch, eds., Oxford Univ. Press. Chapter 4, 57-91, 2006.

Zikopoulos, B. and Barbas, H. Prefrontal projections to the thalamic reticular nucleus form a unique circuit for attentional mechanisms. J. Neurosci. 26: 7348-7361, 2006.

Hilgetag, CC. and Barbas, H. Role of mechanical factors in the morphology of the primate cerebral cortex. PLoS Comput Biol 2(3): e22, 2006.

Medalla, M. and Barbas H. Diversity of laminar connections linking periarcuate and lateral intraparietal areas depends on cortical structure. Eur. J. Neurosci.23: 161-179, 2006.

Germuska, M. Saha, S., Fiala, J. and Barbas, H. Synaptic distinction of laminar specific prefrontal-temporal pathways in primates. Cerebral Cortex 16: 865-875, 2006.

Barbas, H., Hilgetag, C.C., Saha, S., Dermon CR and Suski, J. Parallel organization of contralateral and ipsilateral prefrontal cortical projections in the rhesus monkey. BMC Neuroscience 2005, 6:32.

Hilgetag C.C. and Barbas, H. Developmental mechanics of the primate cerebral cortex. Anatomy and Embryology 210: 411-417, 2005.

Barbas, H., Medalla, M., Alade, O., Suski, J., Zikopoulos, B., and Lera, P. Relationship of prefrontal connections to inhibitory systems in superior temporal areas in the rhesus monkey. Cerebral Cortex 15: 1356-1370, 2005.

Xiao, D. and Barbas, H. Circuits through prefrontal cortex, basal ganglia, and ventral anterior nucleus map pathways beyond motor control. Thalamus and Related Systems 2: 325-343, 2004.

Stamatakis, A., Barbas, H., and Dermon, C.R. Late granule cell genesis in quail cerebellum. J. Comp. Neurol. 473: 173-189, 2004.

Barbas, H. Dead tissue, living ideas: facts and theory from neuroanatomy. Cortex 40: 205-206, 2004.

Barbas, H., Saha, S., Rempel-Clower, N. and Ghashghaei, HT. Serial pathways from primate prefrontal cortex to autonomic areas may influence emotional expression. BMC Neuroscience 2003, 4:25. http://www.biomedcentral.com/1471-2202/4/25

Hendry, S. and Barbas, H. Cerebral cortex. In: Learning and Memory. Second edition, Byrne, J.H., Editor-in-Chief. Macmillan Refererence, USA, pp 200-202, 2003.

Xiao, D. and Barbas, H Pathways for emotions and memory: I. Input and output zones linking the anterior thalamic nuclei with prefrontal cortices in the rhesus monkey. Thalamus and Related Systems 2: 21-32, 2002.

Xiao, D. and Barbas, H Pathways for emotions and memory: II. Afferent input to the anterior thalamic nuclei from prefrontal, temporal, hypothalamic areas and the basal ganglia in the rhesus monkey. Thalamus and Related Systems 2: 33-48, 2002.

Ghashghaei, H.T. and Barbas, H. Pathways for emotion: Interactions of prefrontal and anterior temporal pathways in the amygdala of the rhesus monkey. Neuroscience 115:1261-1279, 2002.

Barbas, H. and Hilgetag, C.C. Rules relating connections to cortical structure in primate prefrontal cortex. Neurocomputing 44-46 301-308, 2002.

Hilgetag, C.C. Dombrowski, S.M. and Barbas, H. Classes and gradients of prefrontal cortical organization in the primate. Neurocomputing 44-46: 823-829, 2002.

Barbas, H., Ghashghaei, H.T., Rempel-Clower, N.L. and Xiao, D. Anatomic basis of functional specialization in prefrontal cortices in primates. Chapter 1, pp 1-27. Handbook of Neuropsychology, Second Edition, Vol. 7. Grafman, J. (Ed). Elsevier Science B.V., Amsterdam, 2002.

Dombrowski, S.M., Hilgetag, C.C. and Barbas, H. Quantitative architecture distinguishes prefrontal cortical systems in the rhesus monkey. Cerebral Cortex 11: 975-988, 2001.

Ghashghaei, H. and Barbas, H. Neural interaction between the basal forebrain and functionally distinct prefrontal cortices in the rhesus monkey. Neuroscience 103:593-614, 2001.

Rempel-Clower, N.L. and Barbas, H. The laminar pattern of connections between prefrontal and anterior temporal cortices in the rhesus monkey is related to cortical structure and function. Cerebral Cortex 10: 851-865, 2000.

Barbas, H. Connections underlying the synthesis of cognition, memory and emotion in primate prefrontal cortices. Brain Res. Bul. 52: 319-330, 2000.

Barbas, H. Complementary roles of prefrontal cortical regions in cognition, memory and emotion in primates. Adv. Neurol. 84: 87-110, 2000.

Barbas, H. Neuroanatomic basis for reorganization of function after prefrontal injury in non-human primates. In: Neuroplasticity and Reorganization of Function After Brain Injury. H.S. Levin and J. Grafman (eds.). Oxford Univ. Press, New York, pp. 84-108, 2000.

Barbas, H., Ghashghaei, H., Dombrowski, S.M. and Rempel-Clower, N.L. Medial prefrontal cortices are unified by common connections with superior temporal cortices and distinguished by input from memory-related areas in the rhesus monkey. J. Comp. Neurol. 410:343-367, 1999.

Rempel-Clower, N. and Barbas, H. Topographic organization of connections between the hypothalamus and prefrontal cortex in the rhesus monkey. J.Comp. Neurol. 398: 393-419, 1998.

Barbas, H. and Rempel-Clower, N. Cortical structure predicts the pattern of corticocortical connections. Cerebral Cortex 7:635-646, 1997.

Barbas, H. Two prefrontal limbic systems: their common and unique features. In: The Association Cortex - Structure and Functions. Gordon and Breach, Science Pubs., Inc. pp 97-113. 1997.

Dombrowski, S. and Barbas, H. Differential expression of NADPH diaphorase in functionally distinct prefrontal cortices in the rhesus monkey. Neuroscience 72:49-62, 1996.

Barbas, H. and Blatt, G.J. Topographically specific hippocampal projections target functionally distinct prefrontal areas in the rhesus monkey. Hippocampus 5:511-533, 1995.

Alder, R. and Barbas, H. Complementary distribution of the phosphoproteins DARPP-32 and I-1 in the cerebellar system. Neuroreport 6:2368-2372, 1995.

Barbas, H. Anatomic basis of cognitive-emotional interactions in the primate prefrontal cortex. Neurosci. Biobehav. Rev. 19:499-510, 1995.

Barbas, H. Pattern in the distribution of prefrontally directed neurons with divergent axons in the rhesus monkey. Cerebral Cortex 5:158-165, 1995.

Dermon, C.R. and Barbas, H. Contralateral thalamic projections predominantly reach transitional cortices in the rhesus monkey. J. Comp. Neurol. 344:508-531, 1994.

Barbas, H. Organization of cortical afferent input to orbitofrontal areas in the rhesus monkey. Neuroscience 56:841-864, 1993.

Barbas, H., Gustafson, E.L. and Greengard, P. Comparison of the immunocytochemical localization of DARPP-32 and I-1 in the amygdala and hippocampus of the rhesus monkey. J. Comp. Neurol. 334:1-18, 1993.

Barbas, H. Architecture and cortical connections of the prefrontal cortex in the rhesus monkey. Advances in Neurology, Vol. 57; Frontal Lobe Seizures and Epilepsies. P. Chauvel, A.V. Delgado-Escueta, E. Halgren and J. Bancaud, eds. New York, Raven Press, pp. 91-115, 1992.

Barbas, H., Henion, H.H. and Dermon, C.R. Diverse thalamic projections to the prefrontal cortex in the rhesus monkey. J. Comp. Neurol. 313:65-94, 1991.

Barbas, H. and Pandya, D.N. Patterns of connections of the prefrontal cortex in the rhesus monkey associated with cortical architecture. In: Frontal Lobe Function and Injury. H.S. Levin, H. M. Eisenberg and A.L. Benton, eds. Oxford University Press, pp. 35-58, 1991.

Barbas, H. and De Olmos, J. Projections from the amygdala to basoventral and mediodorsal prefrontal regions in the rhesus monkey. J. Comp. Neurol., 300: 549-571, 1990.

Barbas, H. and Pandya, D. N. Architecture and intrinsic connections of the prefrontal cortex in the rhesus monkey. J. Comp. Neurol. 286:353-375, 1989.

Vogt, B. A. and Barbas, H. Structure and connections of the cingulate vocalization region in the rhesus monkey. In J.D. Newman, ed. The Physiological Control of Mammalian Vocalizations. New York, Plenum Press, pp. 203-225, 1988.

Barbas, H. Anatomic organization of basoventral and mediodorsal visual recipient prefrontal regions in the rhesus monkey. J. Comp. Neurol. 276: 313-342, 1988.

Pandya, D. N., Seltzer, B. and Barbas, H. Input-output organization of the primate cerebral cortex. In H. D. Steklis and J. Erwin, eds. Comparative Primate Biology, Vol. 4: Neurosciences. New York, Alan R. Liss, pp. 39-80, 1988.

Barbas, H. and Pandya, D. N. Architecture and frontal cortical connections of the promotor cortex (area 6) in the rhesus monkey. J. Comp. Neurol., 256: 211-228, 1987.

Barbas, H. Pattern in the laminar origin of corticocortical connections. J. Comp. Neurol, 252: 415-422, 1986.

Barbas, H., and Mesulam, M-M. Cortical afferent input to the principalis region of the rhesus monkey. Neuroscience 15: 619-637, 1985.

Pandya, D. N. and Barbas, H. Architecture and connections of the promotor areas in the rhesus monkey. The Behav. Brain Sci., 8: 595-596, 1985.

Tepper, J., Barbas, H., Hagemann, A. and Dubrovsky, B. A simple open-loop vibrating system for variable amplitude and frequency sinusoidal stretching of muscles. J. Neurosci. Meth. 11: 251-256 1984.

Barbas, H. and Pandya, D.N. The topography of commissural fibers of the prefrontal cortex in the rhesus monkey. Exp. Brain Res. 55: 187-191, 1984.

Barbas, H., and Mesulam, M-M. Organization of afferent input to subdivisions of area 8 in the rhesus monkey. J. Comp. Neurol. 200:407-431, 1981.

Barbas, H., and Dubrovsky, B. Peripheral and central effects of tonic vibratory stimuli to dorsal neck and extraocular muscles in the cat. Exp. Neurol. 74: 67-85, 1981.

Barbas, H., and Dubrovsky, B. Excitatory and inhibitory interactions of extraocular and dorsal neck muscle afferents in the cat frontal cortex. Exp. Neurol. 74:74:55-66, 1981.

Mesulam, M-M, Hegarty, E., Barbas, H., Carson, K.A., Gower, E.C., Knapp, A.G., Moss, M.B., and Mufson, E.J. Additional factors influencing sensitivity in the tetramethyl benzidine method for HRP neurohistochemistry, J. Histochem. Cytochem. 28: 1255-1259, 1980.

Barbas, H., and Dubrovsky, B. Some factors in eye-head movement control. In H. H. Kornhuber and L. Deecke (Eds.), Motivation, Motor and Sensory Processes of the Brain. Progr. Brain Res. 54: 84-88, 1980.

Barbas, H., and Dubrovsky, B. Characteristics of dorsal neck muscle afferent input to the cat frontal cortex before and after dorsal funiculus section. Exp. neurol. 67: 35-51, 1980.

Dubrovsky, B. Solyom, L., and Barbas, H. Characteristics of the contingent negative variation in patients suffering from specific phobias. Biol. Psychiat. 13: 531-540, 1978.

Barbas, H., Solyom, L., and Dubrovsky, B. CNV in patients affected by specific phobias. In D. Otto (Ed.), Event Related Slow Potential Research, Environmental Protection Agency, N.C., 369-372, 1978.

Dubrovsky, B., and Barbas, H. Frontal projections of dorsal neck and extra muscles Exp. Neurol. 55: 680-693, 1977.

Barbas, H., and Spear, P.D. Effects of serial unilateral and serial bilateral visual cortex lesions on brightness discrimination learning in rats. J. Comp. Physiol. Psychol. 90: 279-292, 1976.

Spear, P.D. and Barbas, H. Recovery of pattern discrimination ability in rats receiving serial or one-stage visual cortex lesions. Brain Res. 94: 337-346, 1975.

ABSTRACTS

Hilgetag, C.C., Medalla, M. and Barbas, H. Linking connection patterns to the architecture of the primate visual cortex. International Conference on Cognitive and Neural Systems, vol. 13, 2009.

Medalla, M. and Barbas, H. Differential interaction of anterior cingulate cortex with functionally distinct dorsolateral prefrontal areas 46 and 10. International Conference on Cognitive and Neural Systems, vol. 13, 2009.

Zikopoulos, B. and Barbas, H. Architecture of white matter below prefrontal brain areas in autism. International Conference on Cognitive and Neural Systems, vol. 13, 2009.

Bunce, J. and Barbas, H. Anterior cingulate projections to medial temporal cortices are positioned to modulate mnemonic output. Neurosci. Abstr. 38, 2008.

Zikopoulos, B. and Barbas, H. Differential projections and synaptic interactions of posterior orbitofrontal and anterior cingulate cortices with the amygdala. Neurosci. Abstr. 38, 2008.

Medalla, M. and Barbas, H. Synaptic distinction of anterior cingulate and lateral prefrontal pathways onto inhibitory neurons in area 9. Neurosci. Abstr. 38, 2008.

Hilgetag, C-C, Medalla, M. and Barbas, H. Relationship of connection patterns to the architecture of the primate visual cortex. Neurosci. Abstr. 38, 2008.

Barbas, H. How the frontal lobe controls the mind's eye. 26th Symposium of the Center for Visual Science, Univ. Rochester. Blurring the Borders between Vision, Cognition and Action. 2008.

Barbas, H. Prefrontal pathways for cognition, emotion and action. 11th Annual Scientific Research Symposium. Anxiety Disorders Association of America, 2008.

Hogle, M. and Barbas, H. Laminar organization of distinct classes of inhibitory neurons in the motor and premotor cortices of the rhesus monkey International Conference on Cognitive and Neural Systems, vol. 12, 2008.

Zikopoulos, B. and Barbas, H. Neurochemical Specificity of parallel circuits linking prefrontal cortex with the thalamus. Neurosci. Abstr. 37, 2007.

Höistad, M. and Barbas, H. Emotional processing through amygdalo-temporal interconnections in the rhesus monkey. Gordon Conference, 2007.

Medalla, M. and Barbas, H. Differential synaptic interaction of intrinsic prefrontal pathways with calbindin and calretinin -expressing inhibitory neurons in the rhesus monkey. International Conference on Cognitive and Neural Systems, vol. 11. p , 2007.

Höistad, M. and Barbas, H. Laminar-specific amygdalo-temporal interactions in emotional processing. International Conference on Cognitive and Neural Systems, vol. 11: 38, 2007.

Barbas, H. Prefrontal pathways for flexible behavior. Kavli Symposium, May, 2006.

Barbas, H. Organization of primate prefrontal association cortex. Joint Meeting of the Anatomical Society of Great Britain and Ireland and the Spanish Anatomical Society, Madrid, Sept. 2006.

Barbas, H. Prefrontal pathways for executive control. Sloan-Swartz Meeting of Computational Neuroscience. N.Y., July, 2006.

Zikopoulos B and Barbas H (2006). Involvement of the ventral anterior thalamic nucleus in corticocortical communication. 10th International Conference on Cognitive and Neural Systems. Boston MA: May 17-20, 2006.

Medalla, M. and Barbas, H. Synaptic organization of prefrontal pathways associated with working memory. Proceedings from the Tenth International Conference on Cognitive and Neural Systems (ICCNS). 2006.

Lera, P. and Barbas, H. (ICNS) 2006. Excitatory and inhibitory synaptic interactions from prefrontal areas in superior temporal auditory association cortex. Tenth International Conference on Cognitive and Neural Systems May17-20, 2006.

Zikopoulos, B. and Barbas, H. Dual termination mode of prefrontal projections to the inhibitory thalamic reticular nucleus in the rhesus monkey. Neurosci. Abstr. 35, 2005.

Medalla, M. and Barbas, H. Cortical density predicts complex laminar patterns of prefrontal-intraparietal connections. Neurosci. Abstr. 35, 2005.

Zikopoulos, B., and Barbas, H. Dimorphism of prefrontal corticothalamic projections to the inhibitory thalamic reticular nucleus in the rhesus monkey. ICCNS, 2005.

Hilgetag, CC and Barbas, H. Mechanical control of cortical convolutions. Neurosci. Abstr. 30, 2004.

Medalla, M. and Barbas, H. Laminar organization of connections between posterior lateral prefrontal and lateral intraparietal areas. ICCNS, 2004.

Germuska, M. and Barbas, H. Architecture of ultrastructural features of identified synapses linking prefrontal and temporal cortex. ICCNS, 2004.

Hilgetag, C.C. and Barbas, H. Proximity and structural similarity as predictors of primate corticocortical connectivity. ICCNS, 2004.

Hilgetag, CC and Barbas, H: Developmental mechanics of the primate cerebral cortex, 2nd Vogt-Brodmann Symposium Abstr. Juelich 2004.

Hilgetag, C.C. and Barbas, H. Contribution of mechanical forces to the shaping of the cerebral cortical landscape. FENS, Lisbon, July 2004.

Hilgetag, CC and Barbas, H: Mechanical control of cortical convolutions, Soc. Neurosci Abstr. 30: 616.8, San Diego 2004.

Hilgetag, C.C. and Barbas, H. Predictors of primate corticocortical connectivity. Neurosci. Abstr. 29, 2003.

Dermon C.R., Ioakimidis J., Moss M., Barbas H. Altered expression of alpha 2 and beta adrenoceptors in prefrontal cortices of hypertensive rhesus monkeys. IBRO, July, 2003.

Barbas, H. and Hilgetag, C.C. Rules of cortical patterns of connections derived from quantitative anatomic data. IBRO, July, 2003.

Hilgetag, CC, Saha, S.G., Suski, JL, Dermon, CR., and Barbas, H. Organization of contralateral and ipsilateral projections in the primate cortex . Seventh international conference on cognitive and neural systems, Boston, June, 2003.

Xiao, D. and Barbas, H. Laminar origin of projection neurons in the prefrontal cortex directed to the thalamic mediodorsal, anterior, and ventral anterior nuclei in rhesus monkeys. Seventh international conference on cognitive and neural systems, Boston, June, 2003.

Hilgetag, C.C. and Barbas, H. Global organization of primate prefrontal cortical architecture and connectivity. IBRO, July, 2003

Saha, S. and Barbas, H. Differences in the features of synapses formed by prefrontal cortical axons in superficial and deep layers of auditory cortex in the rhesus monkey. Neurosci. Abstr. 28: 261.3. 2002.

Xiao, D. and Barbas, H. Cortical and subcortical projections to the thalamic ventral anterior nucleus in rhesus monkeys. Neurosci. Abstr. 28: 262.7, 2002.

Ghashghaei, T. and Barbas, H. Dual and opposite effects exerted by orbitofrontal cortices on the amygdala and the emotional motor system. Eleventh Annual Computational Neuroscience Meeting, Chicago, July, 2002.

Hilgetag, C.C. and Barbas, H. Impact of mechanical factors on primate cortical organization. Eleventh Annual Computational Neuroscience Meeting, Chicago, July, 2002.

Barbas, H. Saha, S.G., Suski, J.L., Hilgetag, C.C. and Dermon, C.R. Distinct patterns of corticocortical communication by ipsilateral and contralateral prefrontal cortices in primates. Sixth international conference on cognitive and neural systems, Boston, June, 2002.

Hilgetag, C.C. and Barbas, H. Contribution of mechanical factors to shaping primate cortical architecture. Sixth international conference on cognitive and neural systems, Boston, June, 2002.

Dermon, C.R., Zampetaki, M., Zikopoulos, V., Panagis, L., Kandarian, S. and Barbas, H. Altered expression of alpha 2 and beta adrenoceptors in frontal and hippocampal areas in spontaneously hypertensive rats. Eur. Soc. Neurosci., Paris, July, p 457, 2002.

Ghashghaei, H.T. and Barbas, H. Distinct pattern of connections between functionallyspecialized prefrontal areas and the amygdala in the rhesus monkey. Neurosci. Abs. 27: 139.11, 2001.

Xiao, D. and Barbas, H. Prefrontal cortical extension of the papez circuit for emotion through the anterior thalamic nuclei in the rhesus monkey. Neurosci. Abstr. 27: 728.2, 2001.

Saha, S.G., Rempel-Clower, N.L., Ghashghaei, H.T., and Barbas, H. Medial prefrontal cortex exerts excitatory influence on a hypothalamic autonomic area in the rhesus monkey. Neurosci. Abstr. 27: 728.5, 2001.

Barbas, H. and Hilgetag, C.C. Rules relating connections to cortical structure in primate prefrontal cortex. Tenth Annual Computational Neuroscience Meeting, Pacific Grove, California, July, 2001.

Hilgetag, C.C., Dombrowski, S.M. and Barbas, H. Classes and gradients of prefrontal cortical organization in the primate. Tenth Annual Computational Neuroscience Meeting, Pacific Grove, California, July, 2001.

Hilgetag, C.C., Dombrowski, S.M. and Barbas, H. Factors determining prefrontal cortical structure and connections in the primate. Fifth international conference on cognitive and neural systems, Boston, June, 2001.

Ghashghaei, H. and Barbas, H. Restricted descending projections from the prefrontal cortices terminate in functionally distinct sectors of the amygdala in the rhesus monkey. Fourth international conference on cognitive and neural systems, Boston, May 2000.

Barbas, H. Patterns of cortical connections linking areas associated with cognition, memory and emotion in primates. International conference on complex systems., Nashua, N.H., May, 2000.

Rempel-Clower, N.L., Ghashghaei, H. and Barbas, H. Serial pathways from orbital and medial prefrontal cortices reach hypothalamic, brainstem, and spinal autonomic centers in the rhesus monkey. Neurosci. Abstr., 25: 362, 1999.

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Dombrowski, S.M. and Barbas, H. Distinction of prefrontal architectonic areas using stereologic procedures in the rhesus monkey. Neurosci. Abstr. 24: 1163, 1998.

Rempel-Clower, N. and Barbas, H. Laminar organization of projections from orbitofrontal cortex to anterior temporal cortex. Neurosci. Abstr. 23: 1303, 1997.

Ghashghaei, H. and Barbas, H. Topographic organization of projections from the basal forebrain to functionally distinct prefrontal cortices in the rhesus monkey. Neurosci. Abstr. 23: 901, 1997.

Kallergi, G., Stamatakis, A., Zikopoulos, V., Barbas, H. and Dermon, C.R. Ontogeny of proliferating cells during late embryonic brain histogenesis of the Japanese quail. Neurosci. Abstr. 23: 589, 1997.

Rempel-Clower, N. and Barbas, H. Topography of projections from the hypothalamus to prefrontal cortices in the rhesus monkey. Neurosci. Abstr. 22, 672, 1996.

Stamatakis, A., Barbas, H. and Dermon, C.R. NADPH-diaphorase in the developing chick forebrain. Neurosci. Abstr. 22, 1973, 1996.

Barbas, H. Interaction of pathways underlying cognitive and emotional processes in primate limbic prefrontal areas. IBRO Satellite Symposium on Anatomy and Physiology of the Association Cortices. Inuyama, Japan, p. 13, 1995.

Barbas, H. Pattern of connections between limbic and eulaminate prefrontal cortices in primates. Epilepsia, 1995.

Barbas, H. and Blatt, G.J. Focal hippocampal input to medial and orbital prefrontal areas in the rhesus monkey. Neurosci. Abstr. 20: 350, 1994.

Dombrowski, S. and Barbas, H. Distribution of NADPH diaphorase in the prefrontal cortex of the rhesus monkey. Neurosci. Abstr. 19:1444, 1993.

Barbas, H. Afferent input to olfactory-recipient orbital cortices in the rhesus monkey. AAAS: Mapping the Human Brain, p. 7, 1993.

Dermon, C.R. and H. Barbas. Bilateral thalamic projections to prefrontal areas in the rhesus monkey are associated with the laminar definition of the target area. IBRO Workshop Abstr. (Patras, Greece) 8: 85, 1992.

Campbell, M.J. and H. Barbas. Distribution of neurofilament immunoreactive neurons in the rhesus monkey motor cortices. Neurosci. Abstr.17:1018, 1991.

Dermon, C.R. and Barbas, H. Contralateral thalamic projections to the prefrontal cortex in the rhesus monkey are directed preferentiallyl to limbic areas. Third IBRO World Congress of Neuroscience, 322, 1991.

Barbas, H. and De Olmos, J. Amygdaloid projections to the prefrontal cortex in the rhesus monkey. Neurosci. Abstr., 15:1245, 1989.

Barbas, H. Patterns in corticocortical connections associated with cortical architecture. First Bristol-Myers Symposium on Neuroscience. Integrative Functions. Vernon B. Mountcastle symposium, Baltimore, 1989.

Barbas, H. Architectonic and connectional organization of ventral and dorsal prefrontal areas in the rhesus monkey. Epilepsia 29(2):209-210, 1988.

Barbas, H. Architectonic and connectional features of the prefrontal cortex in the rhesus monkey. V Congress of the International Soc. Greek Neurosci., Sept. 2, 1988.

Barbas, H. Cortical projections to orbitofrontal limbic cortices in the rhesus monkey. Neurosci. Abstr. 14:373.6, 1988.

Henion, T. and Barbas, H. Thalamic projections to ventrolateral and dorsomedial subsectors of the prefrontal cortex in the rhesus monkey. Neurosci. Abstr. 13: 528, 1987.

Barbas, H. The laminar origin of cortical projections to the frontal cortex in the rhesus monkey. Neurosci. Abstr. 12: 1439, 1986.

Barbas, H. Topography and laminar origin of cortical visual input to the prefrontal cortex of the rhesus monkey. Neurosci. Abstr. 11: 324, 1985.

Barbas, H. and Mesulam, M.M. Cortical afferent input to the banks of the principals sulcus of the rhesus monkey. Neurosci. Abstr. 10: 288, 1984.

Barbas, H., and Pandya, D.N. Distribution of acetylcholinesterase in the medial and ventral prefrontal cortex of the rhesus monkey. Neurosci. Abstr. 9: 253.1, 1983.

Barbas, H., and Pandya, D.N. Cytoarchitecture and intrinsic connections of the frontal cortex in the rhesus monkey. Neurosci. Abstr. 8: 933, 1982.

Barbas, H., and Pandya, D.N. Frontal lobe afferent input to area 6 in the rhesus monkey. Neurosci. Abstr. 7: 414, 1981.

Barbas, H., and Mesulam, M-M. Differential afferent input to subdivisions within the frontal eye fields (area 8) of macaques. Neurosci. Abstr. 6: 316, 1980.

Barbas, H., and Dubrovsky, B. Peripheral and central effects of tonic vibratory stimuli to dorsal neck and extraocular muscles in the cat. Neurosci. Abstr. 5: 689, 1979.

Barbas, H., and Dubrovsky, B. Dorsal neck muscle afferent pathways to frontal brain regions. Canad. Physiol. 19, 1978.

Barbas, H., and Dubrovsky, B. Effect of dorsal neck muscle afferents on structures involved in oculomotor control. 12th Canadian Congress of Neurological Science, Quebec City, 39, 1977.

Barbas, H., Dubrovsky, B., Williams, D., and McCormack, M. Excitatory and inhibitory effects of dorsal neck and extraocular muscle afferents in frontal eye field regions in the cat. Neurosci. Abstr. 3: 153, 1977.

Barbas, H. and Dubrovsky, B. Effect of dorsal neck and extraocular muscle afferents on structures involved in oculomotor control. Canad. Congr. Neurol. Sci., Quebec City. 12: 39, 1977.

Dubrovsky, B., and Barbas, H. Convergence of extraocular and dorsal neck muscle afferents to areas corresponding with the frontal eye fields (FEF) in the cat. Neurosci. Abstr. 2: 277, 1976.

Barbas, H., Dubrovsky, B., and Solyom, L. Characteristics of the CNV in patients suffering from specific phobias. IV International Congress of Event Related Slow Potentials, N.C., 1976.

Barbas, H., Kraulis, I., and Dubrovsky, B. Effects of corticosterone and 5a dihydro-corticosterone on brainstem sciatic evoked potentials. Neurosci. Abstr. 2: 664, 1976.

Barbas, H., Kraulis, I., and Dubrovsky, B. Excitability changes induced by steroids in the central nervous system. Neurosci. Abstr. 1: 443, 1975.

Dubrovsky, B., and Barbas, H. Central projections of dorsal neck muscles. Neurosci, Abstr. 1: 234, 1975.

PARTIAL LIST OF INVITED LECTURES

CIRM talk, San Francisco, May 28, 2009.
Bu talk, Consciousness meetings, March, 2009.
“Parallel prefrontal pathways for flexible behavior.” Boston Univ. Sch. Med., Pharmacol., April 8, 2009;
“The frontal lobe and evolution of emotions”. Darwin Legacy Lecture Series. Charles Darwin and Abraham Lincoln Bicentennial Celebrations. UCSD/Salk, March 12, 2009.
“The core and matrix of the primate thalamus and connections with the prefrontal cortex” Salk Institute, March 11, 2009.
“Brain architecture rules” Cold Spring Harbor Lab, Dec. 8, 2008
“Prefrontal pathways and flexible behavior”. Neurobiology seminar series. Univ. Chicago, Oct. 2, 2008.
“Brain architecture” Wood’s Hole, Neuroinformatics. August 25, 2008
“How the frontal lobe controls the mind’s eye”. 26th Symposium of the Center for Visual Science (CVS): "Blurring The Borders Between Vision, Cognition And Action. Rochester, May 29, 2008.
“Laminar-specific prefrontal pathways for excitatory and inhibitory control.” MBL, Banbury Center, N.Y., May 6, 2008.
“Prefrontal pathways for cognition, emotion and action”. ADAA, Savannah, GA, March 6, 2008.

SAR, Feb. 4, Prefrontal cortex: the brain's chief executive. 2008
What is mathematics? Research by Undergraduates in Mathematics Boston University, panel discussion, Boston University, November 10, 2007.
"How does the prefrontal cortex inhibit irrelevant signals?" NaK, Math, BU, Oct. 10, 2007.
"Cortical organization". Wood's Hole, August 20, 2007.
"Principles and models emerging from quantitative architecture and connections". Wood's Hole, August 20, 2007.
"Prefrontal pathways for thought, emotion and action". NIH workshop, July 12, 2007.
"Cortical organization in primates" Karolinska Institute, Stockholm, Sweden, Feb. 16, 2007.
"Principles of cortical connections". Karolinska Institute, Stockholm, Sweden, Feb. 16, 2007.
"Evolution and development of the cerebral cortex". Karolinska Institute, Stockholm, Sweden, Feb. 17, 2007.
"Cortical organization: principles and models" Karolinska Institute, Stockholm, Sweden, Feb. 17, 2007.
"Pathways underlying the synthesis of cognitive-emotional processes and their pathology". Karolinska Institute, Stockholm, Sweden, Feb. 17, 2007.
"The prefrontal cortex and flexible behavior. Rutgers Univ., Center for Neural Sci., March 9, 2007.
"Overview of the orbitofrontal cortex". March 12, 2007: NYAS. (Also chair of session entitled: Session 1: Defining the orbitofrontal cortex across species.
"The flow of information for emotions through prefrontal and temporal pathways". April 9, 2007 Boston College
"Prefrontal pathways for flexible behavior". May 15, 2007, Martinos Center, Harvard Med. Sch.
The brain architecture project. May20-22, 2007. Chair, session 4. Coordinating with atlasing projects. May 22, 2007, The Banbury Center, Cold Spring Harbor.
(Stockholm lectures - October 11-12, 2006 six lectures)
"Organization of primate prefrontal association cortex: Flow of information for cognitive-emotional processing". Cajal symposium, Madrid, Spain, Sept. 14, 2006.
"Cortical organization: evolutionary concepts and neuroanatomical approaches". Woods Hole, August 21, 2006.
"Principles and models emerging from quantitative architecture and connections". Woods Hole, August 21, 2006.
"Prefrontal pathways for executive control". N.Y. Computational Conference, July 24, 2006.
"Anatomic basis of flexible behavior through primate prefrontal cortex". Kavli Symposium on 'Prefrontal Cortex, Working Memory and Flexible Behavior'. May 4-5, 2006.
"Does the frontal lobe guide hearts and minds? " Boston Psychiatric group, March 28, 2006.
"Specialization and synergism of prefrontal pathways for cognition, emotion and action". Computational and Systems Neuroscience workshop, The Canyons, Utah, March 9, 2006.
"Prefrontal pathways for thought, emotion and decision for action: clinical implications". Karolinska Institute, Stockholm, Sweden. February 21, 2006.
"Overview of the organization of the cerebral cortex" Karolinska Institute, Stockholm, Sweden, Feb. 20, 2006.
"Principles of connections in the cortex". Karolinska Institute, Stockholm, Sweden, Feb. 20, 2006.

"Principles of evolution and development of the cerebral cortex". Karolinska Institute, Stockholm, Sweden, Feb. 20, 2006.
"Cortical organization: principles and models" Karolinska Institute, Stockholm, Sweden, Feb. 20, 2006.
"Pathways underlying the synthesis of cognitive-emotional processes and their pathology". Karolinska Institute, Stockholm, Sweden, Feb. 21, 2006.
"Cognition-emotion synthesis in the nervous system". Karolinska Institute, Stockholm, Sweden, Feb. 21, 2006.
"Does the frontal cortex guide hearts and minds?" Columbia Univ. April 21, 2005.
"How the frontal lobe guides hearts and minds." Boston Univ., Brain and Behav. seminar series. Jan. 28, 05.
"A primer on pathways underlying cognitive-emotional interactions." Cure Autism Now, Malibu, Feb. 5, 2005.
How the frontal lobe guides hearts and minds. Univ. of Rochester talk, Dec. 2, 2004
Prefrontal pathways underlying cognitive-emotional interactions and executive control. Cold Spring Harbor Laboratory, September, 2004.
Prefrontal cortex: overview. Xylokastro, Greece, July 5, 2004
Prefrontal cortex: architecture and connections. Xylokastro, Greece, July 7, 2004.
Prefrontal cortex: Principles and models. Xylokastro, Greece, July 12, 2004
Synthesis of cognitive-emotional interactions. Xylokastro, Greece, July 14, 2004.
“Cognitive-emotional interactions and executive control in primate prefrontal cortex”. Intern. Univ. of Bremen, Germany, Dec., 2003.
“Pathways underlying cognitive-emotional interactions and executive control”. Interdisciplinary Program in Neuroscience, Georgetown Univ., October 14, 2003.
“Prefrontal pathways for cognitive-emotional interactions and executive control.” Univ. Pennsylvania, Sept., 2003.
“The silent cortex speaks: tales from the frontal lobe”. Center for Cognitive Neuroscience, Univ. Pennsylvania, Sept., 2003.
“Rules of cortical patterns of connections derived from quantitative anatomic data.” IBRO symposium ‘Computational Mapping of the Cortex’, July, 2003.
“Neural circuits for executive control.” Human Brain Mapping, NIH sponsored workshop on executive control. June, 2003.
“Patterns and predictions from cortical connections in primates”. Human Brain Mapping workshop, June 2003.
“The anterior cingulate and orbitofrontal cortex and goal directed behavior”. Winter Conference on Brain Research, Snowbird, Utah, January 26, 2003.
“Differential linkage of functionally distinct prefrontal cortical regions with basal forebrain systems and the emotional motor system” Harvard Medical School, Dept. Psychiatry, Mass Mental Health Center. December 12, 2001.
“What does the hard wiring in the cortex tell us about patterns and rhythms?” Center for Biodynamics, Boston Univ., November 7, 2001.
Rules relating connections to cortical structure in primate prefrontal cortex”. Computational Neuroscience, 10th Annual Meeting, Acilomar, CA, June 30-July 3, 2001.

"Auditory-prefrontal cortical interactions: implications for behavior and neuropathology". Hearing Research Center, Boston Univ., June 15, 2001.

"Connectional patterns distinguish functional domains in the anterior cingulate in primates. Workshop on the Anterior Cingulate. The Swartz Center for Computational Neurosci., The Inst. of Neural Computation, UCSD, The Salk Inst. for Biol. Studies, 2001 (May 3).

"The frontal-temporal dialogue in primates. Neuroimaging Seminar Series, Massachusetts General Hospital, Charlestown, MA. Feb. 7, 2001

"The prefrontal cortex: structure and function." Boston Society for Neurology and Psychiatry, Nov. 30, 2000.

"Prefrontal cortex in executive control for thought, feeling and action". Interdepartmental Neurosciences seminar series, Boston Univ., Nov. 29, 2000.

"Functional specialization in the frontal lobe". Neuropsychology, Newtonville, MA, Nov. 13, 2000.

"Frontal lobe: structural-functional relationships", Dept. Neurology, Mass Gen. Hosp. and Brigham and Women's Hospital, Nov. 8, 2000.

"The fronto-temporal dialogue in primates." Program in Brain, Behavior and Cognition Colloquium series, Boston Univ., October 13, 2000.

Discussant: symposium on Cognition and Emotion. NIMH, July 8-9, 2000.

"Specialization of prefrontal cortices in primates" Harvard Medical School, Dept. Psychiatry, Mass Mental Health Center, May 3, 2000.

"The fronto-temporal dialogue in primates. Department of Anatomy and Neurobiology, Boston University Sch. Med., April 14, 2000.

"Complementary roles of orbitofrontal, medial and lateral prefrontal cortices in cognition, memory and emotion". Cognitive and Neural Systems, Boston Univ., 1999.

"Cellular and molecular features of primate prefrontal cortices: quantitative stereological anayses. Dept. Mathematics, Division of Statistics, Boston Univ. Nov. 5, 1999.

"Functional anatomy of the normal frontal neocortex". 1st International Dartmouth Symposium on Neocortical Epilepsies. Sept. 23, 1998.

"Interaction of pathways underlying cognitive and emotional processes in primate prefrontal cortices." Brain Sciences Center, VA Med. Ctr., Minneapolis, MN. Jan. 7, 1998.

"Connectional patterns distinguish functional domains underlying cognitive, emotional and mnemonic processes in primate prefrontal cortices." International Symposium on "Human Cerebral Cortex: From Gene to Structure and Function". Royal Netherlands Academy of Science, Amsterdam, The Netherlands. April 25, 1998.

"The role of prefrontal pathways in the control of cognition and emotion in primates". Nobel Forum, Karolinka Institute, Stockholm, Sweden. April 27, 1998.

"Anatomic basis of cognitive-emotional interactions in primate prefrontal cortices". Dept. Anat. and Neurobiol., Boston Univ. Sch. Med., Nov. 15, 1996.

"Neuroanatomic basis for reorganization of function after prefrontal injury in nonhuman primates". NIH Workshop on neuroplasticity and reorganization of function after brain injury. Dec. 3, 1996.

"Anatomic basis of plasticity in primate prefrontal cortices". 12th Ann. Meeting of the Hellenic Soc. for Neuroscience, October 26, 1996.

"Integration of cognitive-emotional processes in primate prefrontal cortices". Dept. Biology, Univ. of Crete, Greece, October 31, 1996.

"Cortical structure predicts the pattern of corticocortical connections". Cognitive Neurosci. Series, Boston Univ., September 27, 1996.

"Interaction of pathways underlying cognitive and emotional processes in primate limbic prefrontal areas". IBRO satellite symposium on Association Cortex, Inuyama, Japan, July 19, 1995.

"Cognitive-emotional interactions in the primate frontal lobe". Department of Psychiatry, McGill University, September 29, 1993.

"The role of limbic input in visual processing in primates". Visual Perception: Dept. of Cognitive and Neural Sciences, Boston Univ., February 25, 1993.

"Limbic interactions in fronto-temporal association areas in primates" Clinique Neurologique, Rennes, France, Sept. 2, 1993.

"Visual input to non-visual areas". Visual Perception: Dept. of Cognitive and Neural Sciences, Boston Univ., March 20, 1992.

"Connectivity in associative cortex" Sixteenth Annual Winter Conference on the Neurobiology of Learning and Memory, Park City, Utah, January 14, 1992.

"Architectonic specificity of interactions in primate neural systems: implications for their evolution. Department of Psychiatry, McGill University, April 29, 1991.

"Connections of the frontal cortex in relation to cortical cytoarchitecture." International Neuropsychology Symposium, Nafplion, Greece, June 26, 1990.

"Intrinsic organization and amygdaloid projections to the prefrontal cortex in the rhesus monkey." Montreal Neurological Institute, Montreal, Canada, April 5, 1990.

"The role of the limbic system in the organization of the frontal cortex." McGill University, Allan Memorial Institute, Montreal, Quebec, Canada, April 6, 1990.

"Patterns of cortical connections associated with cortical architecture." Seminar presented at the Vision Laboratory, Dept. Biomed. Eng., Boston Univ., April 11, 1990.

"Principles of anatomic organization of the primate cerebral cortex: implications for cortical evolution." Center of Adaptive Systems, Boston Univ., October 16, 1990.

"Structural specificity of neural interactions in the primate cerebral cortex." Dept. Biology, Boston University, November 7, 1990.

"Neuroanatomic organization and connections of frontal lobes." Seminar presented at the Conference on Frontal Lobe Function and Injury. Galveston, Nov. 17, 1989.

"Frontal connections associated with cortical architecture." Seminar presented at the Fishberg Center for Neurobiology, Mount Sinai Hospital, New York, Sept. 27, 1989.

"Anatomic organization of sensory input in the frontal lobe in primates" Montreal Neurological Institute, Montreal, Canada, May 26, 1988.

"The role of sensory and limbic input in the frontal lobe in primates" Department of Physiology, McGill University, Montreal, Canada, May 27, 1988.

"Connectivity patterns of the prefrontal cortex" Fifth Congress of the International Society of Greek Neuroscience, Limassol, Cyprus, Sept. 2, 1988.

"Connectivity patterns of the ventrolateral and dorsomedial prefrontal cortex" International Advanced Research Workshop on Frontal Lobe Seizures and Epilepsies, Chateau d'Esclimont, France, Nov. 3, 1987.

"Physiologic mechanisms of conduction in nerves" Boston VA Hospital, March, 1986.
"Anatomic organization of visual recipient prefrontal regions in rhesus monkeys" Boston University School of Medicine, December, 1985.
"Visual input to the frontal cortex in the rhesus monkey" National Institutes of Health, Bethesda, MD, December, 1985.
"Organization of afferent input to the premotor cortex" Children's Hospital, Harvard Medical School, April, 1984.
"Anatomic organization of behaviorally relevant pathways to the prefrontal cortex in primates" Massachusetts Institute of Technology, December, 1983.
"The prefrontal cortex - anatomic organization of behaviorally relevant pathways" University of Ümea, Ümea, Sweden, June, 1983.
"Afferent input processing in the prefrontal cortex" Dept. Psychol., Boston Univ. March, 1983.
"Organization of afferent input in the prefrontal cortex of mammals" MIT, May, 1982.
"Does the frontal lobe control the eye?" Harvard University, Boston, MA 1982.
"Interaction of extraocular and dorsal neck muscle afferent input in the cat frontal cortex" Northeastern University, 1981.