

CURRICULUM VITAE

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Education:

- 1996 Ph.D State University of New York, Stony Brook. Department of Psychology.
Major: Behavioral Neuroscience
Thesis: Ultrastructural Organization of the Extraretinal Excitatory
Projections to the Lateral Geniculate Nucleus
Research Advisor: Dr. S. Murray Sherman
- 1986 MD Istanbul University, School of Medicine, Turkey

Postdoctoral Training:

- 1996-1998 New York University, Center for Neural Science.
Mentor: Dr. Chiye Aoki.
- 1998-1999 New York Medical College, Department of Physiology
Mentor: Dr. Christopher Leonard.

Academic Employment:

- 2000-present. Assistant Professor, Department of Psychology, University of Virginia,
- 1999-2000. Research Assistant Professor, Center for Neural Science, New York
University,

Honors

- 2005-2006 University of Virginia Teaching Fellow Award
1992 NRSA Postdoctoral Fellowship
1991 Sigma-Xi Travel Award

Funding:

Active grant support:

Afferent-target relations in developing Visual Cortex: Recovery from deprivation

Jeffress Foundation Research Grant

PI. July 2005-June 2007.

Treatment of Status Epilepticus

NIH/NIMDH

Co-PI (PI: Jadeep Kapur) 2005-2009.

Neural Plasticity in the Adult Gustatory System

NIH/NIDCD

Co-PI. (PI: Dave Hill) 2004-2008.

Early Sensory Activity and Cortical Development

NIH R03 Pending

Ontogeny of Central Neural Taste Responses

NIH R01 (Co-PI; PI: David Hill, University of Virginia) Pending

Completed grant support:

Developing Visual Cortex: Afferent-Target Relationships.

NIH National Eye Institute. EY12138

PI. 1999-2004.

Developing Visual Cortex: Afferent-Target Relationships.

UVA, CAS. Interim Lab Funding,

PI. 2004.

Neural and Immune Cell Interactions: Two of a Kind. NIH MH

Co-PI (PI: Lisa Goehler) 2002-2003

Functional Organization of Corticogeniculate Pathway. NRSA,

National Eye Institute, EY06473

Pre/Postdoctoral Grant NRSA 1992-1995. Sponsor: Dr. S Murray Sherman

Memberships at Scientific and Professional Organizations:

Society for Neuroscience

Association for Psychological Science

New York Academy of Sciences

Turkish Neuroscience Association

Publications:

Articles in Refereed Journals:

- Kielland A, Erisir A, Walaas SI, Heggelund P. 2006. Synapsin utilization differs among functional classes of synapses on thalamocortical cells. *Journal of Neuroscience*. May 24;26(21):5786-93.
- Goehler LE, Erisir A, Gaykema RP. 2006. Neural-immune interface in the rat area postrema. *Neuroscience*. 140(4):1415-34
- Erisir A and Dreusicke M. 2005 Quantitative morphology and postsynaptic targets of thalamocortical axons in critical period and adult ferret visual cortex. *Journal of Comparative Neurology* 485: 11-31
- Nahmani M and Erisir A. 2005 VGLUT2 immunocytochemistry identifies thalamocortical terminals in layer 4 of adult and developing visual cortex. *Journal of Comparative Neurology* 484: 458-473.
- Erisir A and Harris JL. 2003. Decline of the critical period of visual plasticity is concurrent with the reduction of NR2B subunit of synaptic NMDA receptor in layer 4. *Journal of Neuroscience*. 15;23(12):5208-18
- Aoki C, Fujisawa S, Mahadomrongkul V, Shah PJ, Nader K and Erisir A. 2003 NMDA receptor blockade in intact adult cortex increases trafficking of NR2A subunits into spines, postsynaptic densities, and axon terminals. *Brain Research*, 963: 139-149.
- Erisir A, Levey AI, Aoki C. 2001 Muscarinic receptor M2 in cat visual cortex: Laminar distribution, relationship to γ -aminobutyric acidergic neurons, and effect of cingulate lesions. *Journal of Comparative Neurology* 441: 168-185.
- Wang S, Bickford ME, van Horn SC, Erisir A, Godwin DW, Sherman SM. 2001 Synaptic targets of thalamic reticular nucleus terminals in the visual thalamus of the cat. *Journal of Comparative Neurology* 440: 321-341.
- Bickford ME, Ramcharan E, Godwin DW, Erisir A, Gnadt J and Sherman SM. 2000. Neurotransmitters Contained in the Subcortical Extraretinal Inputs to the Monkey Lateral Geniculate Nucleus. *Journal of Comparative Neurology* 424: 704-717.
- VanHorn S, Erisir A, Sherman SM 2000. The relative distribution of synapses in the A-laminae of the lateral geniculate nucleus of the cat. *Journal of Comparative Neurology* 416: 509-520.
- Erisir A, D Lau, B Rudy and C S Leonard. 1999. Specific K⁺ channels are required to sustain high frequency firing in fast-spiking neocortical interneurons. *Journal of Neurophysiology* 82:2476-2489.
- Rudy B, Chow A, Lau D, Amarillo Y, Ozaita A, Saganich M, Moreno H, Hernandez_Pineda R, Hernandez_Cruz A, MacIntosh P, Erisir A, Leonard CS and Vega_Saenz de Miera E. 1999. Contributions of Kv3 channels to neuronal excitability. *Annals of New York Academy of Sciences*. 868: 304-43.

- Chow A, Erisir A, Farb C, Nadal MS, Ozaita A, Lau D Welker E and Rudy B. 1999. Kv3.1 and Kv3.2 proteins distinguish three subpopulations of GABAergic interneurons in the mouse cortex. *Journal of Neuroscience* 19(21):9932-9345.
- Erisir A and Aoki C. 1998. A method of combining biocytin tract-tracing with avidin-biotin-peroxidase complex immunocytochemistry. *Journal of Neuroscience Methods*. 18:189-197.
- Erisir A, Van Horn S C, and Sherman S M. 1998. Distribution of synapses in the lateral geniculate nucleus of the cat: differences between laminae A and A1 and between relay cells and interneurons. *Journal of Comparative Neurology*, 390:24-255.
- Erisir A, Van Horn S C, and Sherman S M. 1997 Relative numbers of cortical and brainstem inputs to the LGN. *Proceedings of National Academy of Sciences. U.S.A.* 94(4):1517-1520.
- Erisir A, Van Horn S C, Bickford M E and Sherman S M, 1997. Immunocytochemistry and distribution of parabrachial terminals in the lateral geniculate nucleus of the cat; A comparison with corticogeniculate terminals. *Journal of Comparative Neurology*. 377(4):535-549.
- Godwin D W, Van Horn S C, Erisir A, Sesma M, Carmelo R and Sherman S M. 1997 Ultrastructural localization suggests that retinal and cortical inputs access different metabotropic glutamate receptors in the lateral geniculate nucleus. *Journal of Neuroscience* 16(24):8181-8192.
- Gunluk (Erisir) A, Bickford M E and Sherman S M, 1994. Rearing with monocular lid suture induces abnormal NADPH-diaphorase staining in the lateral geniculate nucleus of cats. *Journal of Comparative Neurology*, 350:215-228.
- Bickford M E, Gunluk (Erisir) A, Van Horn S C and Sherman S M, 1994. A GABAergic projection from the basal forebrain to the visual sector of the thalamic reticular nucleus in the cat. *Journal of Comparative Neurology*, 348:481-510.
- Bickford M E, Gunluk (Erisir) A, Guido W and Sherman S M, 1993. Evidence that cholinergic axons from the parabrachial region of the brainstem are the exclusive source of nitric oxide in the lateral geniculate nucleus of the cat. *Journal of Comparative Neurology*, 334:410-430.
- Agarwala S, Gunluk (Erisir) A, May GM III and Petry HM, 1992. Immunohistochemical Organization of the Ventral Lateral Geniculate Nucleus in the Tree Shrew. *Journal of Comparative Neurology*, 318:267-276.

Slide/Poster Conference Presentations:

- Wright CA and Erisir A. Thalamocortical terminal associated spine protrusions are structurally dissimilar to hippocampal spinules, suggesting a novel function. *Society for Neuroscience* 2006.
- Badr N, Scriver J, Gaykema R, Wimsatt J and Erisir A. Ultrastructural measures of stunted visual cortex development after fetal alcohol exposure. *Society for Neuroscience* 2006.

- Corson JA and Erisir A. The development of corticothalamic synapses in the lateral geniculate nucleus of the ferret throughout the critical period for ocular dominance plasticity. *Society for Neuroscience*, 2006.
- Badr N, Scriver J, Turnbull E, Gaykema R, Wimmisatt J, Erisir A. Abstinence After Fetal Alcohol Exposure Does Not Reverse Stunted Cortical Development. *Association for Psychological Science Annual Meeting*, May 2006.
- Nahmani M, Wyan H, Gonen B, and Erisir A. Development of thalamic input onto parvalbumin-containing neurons in visual cortex. *Society for Neuroscience*, 2005.
- Erisir A. Developmental plasticity of thalamocortical axons in barrel and visual cortices: how similar are they? *Barrels Symposium XVIII*, 2005
- Erisir A, Wang S, Badr N and Nahmani M. Patterns of recovery reveal diverse effects of dark-rearing on cortical development. *Synaptic Plasticity Meeting 2005*. Vancouver, Canada.
- Erisir A, Gladden PR, Nahmani M, May OL. Effect of dark-rearing on thalamocortical morphology and NR2 subunits in ferret visual cortex. *Society for Neuroscience* 2004.
- May OL, Erisir A, and Hill DL. Ultrastructure of Morphologically Identified Chorda Tympani and Greater Superficial Petrosal Axons in the Nucleus of the Solitary Tract in Developmentally Sodium-Restricted and Control Rats. *Society for Neuroscience*, 2004.
- Nahmani M, Wyan H and Erisir A. Development of thalamic input onto GABAergic cells in visual cortex and the effect of dark-rearing. *Society for Neuroscience*, 2004.
- Nahmani M, Dreusicke M and Erisir A. V GluT2 immunocytochemistry identifies thalamocortical terminals in layer 4 of adult and developing visual cortex. *Society for Neuroscience*, 2003, New Orleans, LA.
- Boka K, Baldauf ZB, Nahmani M, Erisir A, Bickford ME 2003. Distribution of vesicular glutamate transporter proteins in the carnivore visual system. *Society for Neuroscience*, 2003, New Orleans, LA.
- Erisir A, Konheim YL and Tweedy JL. 2002. Synapse density of thalamocortical axons in neonatal and adult ferrets, and glutamate receptors in their postsynaptic targets. *Society for Neuroscience*, Orlando, FL.
- Kudwa AE; Erisir A, J-A. Gustafsson, Rissman EF, 2002. Sex Differences in Progesterone Receptor Induction Persist in the ER α KO Mouse. *ENDO Annual Meeting*, FL.
- Gaykema, R.P.A., Erisir, A., Chen, C.-C., & Goehler, L.E., 2002 Ultrastructural features support a dynamic interaction between immune and neural cells in the area postrema. *Society for Neuroscience*, 2002.
- Goehler, L.E., Erisir, A., Chen, C.-C., & Gaykema, R.P.A., 2002 Neural-immune interface in the area postrema: Ultrastructural evidence for functional interactions between neurons and dendritic cells. *Brain, Behavior & Immunity*, 2002.
- Goehler, L.E., Erisir, A., & Gaykema, R.P.A., Close anatomical associations of OX6-positive immune cells and neurons in the area postrema. *Society for Neuroscience*, 2001.
- Erisir A, Alexandre L. 2000. End of critical period is concurrent with the reduction of NR2B subunit from synapses. *Society for Neuroscience*, 2001 New Orleans.
- Lubin M, Erisir A and Aoki C, 1999. Ultrastructural Immunolocalization of the $\alpha 7$ nAChR subunit in Guinea Pig Prefrontal Cortex. *Ann N Y Acad Sci*. 868: 628_632
- Wang S, Erisir A, Sherman SM, Bickford ME. Thalamic reticular nucleus synaptic targets in the cat lateral posterior nucleus. *Society for Neuroscience*, 1999. Miami Beach, FL.
- Erisir A, Lau D, Rudy B, Leonard C S. Low TEA concentration disrupts high frequency firing of fast spiking cells of mouse somatosensory cortex. *Society for Neuroscience*, 1998, Washington, DC.

- Chow A, Erisir A, Farb C, Lau D and Rudy B. Kv3.1 and Kv3.2 proteins distinguish three subpopulations of GABAergic interneurons in the mouse cortex. *Society for Neuroscience*, 1998. Washington, DC.
- Erisir A, Bak M, Elste A and Aoki C. Muscarinic m2 receptors in the visual cortex of neonatal and adult cats and the effect of cholinergic deafferentation: A quantitative electron microscopic study. *Society for Neuroscience*, 1997.
- Wilensky A, Erisir A, Bak M, Mir W and Aoki A. The effect of cholinergic and noradrenergic deafferentation upon the subcellular distribution of NMDA-R1 in developing cat visual cortex. *Society for Neuroscience*, 1997.
- Van Horn S C, Erisir A and Sherman S M. Re-evaluation of the relative distribution in of synapses in the LGN of the cat. *Society for Neuroscience*, 1997.
- Erisir A, Van Horn S C, Bickford M E, Sherman S M. Comparison of cortical and cholinergic brainstem projections to the LGN in cats; An EM study. *Society for Neuroscience*, 1996.
- Aoki C and Erisir A,. NMDA-R1 enriched neurons in layers 6B and white matter of neonatal visual cortices: Are they the α -peptidergic subplate neurons? *Society for Neuroscience*, 1996
- Van Horn S C, Erisir A, and Sherman S M. Differences in synaptology of relay cells between laminae A and A1 of cat LGN. *Society for Neuroscience*, 1996.
- Xiong M, Van Horn SC, Godwin DW, Erisir A and Sherman SM. Localization of metabotropic glutamatereceptors in monkey LGN and VPL. *Society for Neuroscience*, 1996.
- Bickford ME, Godwin D W and Erisir A. The cat pulvinar/LP complex; A corticocortical gateway? *Society for Neuroscience*, 1996.
- Günlük (Erisir) A, Van Horn S C, Bickford M E and Sherman S M. Ultrastructural localization of nitric oxide synthase in lateral geniculate nucleus of the cat. Slide presentation at the annual meeting of the *Society for Neuroscience*, 1995.
- Bickford ME, Günlük (Erisir) A, Godwin DW, Gnat JW and Sherman SM. Subcortical extraretinal projections to the monkey LGN. *Society for Neuroscience*, 1995.
- Günlük (Erisir) A, Vaughan JW, Van Horn SC, Bickford M E and Sherman SM. Synaptic targets of area 18 terminals in the lateral geniculate nucleus of the cat. Slide presentation at the annual meeting of the *Society for Neuroscience*, 1994.
- Bickford M E, Günlük (Erisir) A, Van Horn SC, Vaughan J W, Godwin DW and Sherman SM. Thalamic reticular nucleus synaptic targets in the LGN of the cat. *Society for Neuroscience*, 1994.
- Günlük (Erisir) A, Bickford M E, Guido W and Sherman SM, 1993. NADPH-diaphorase staining in the LGN of monocularly deprived cats. Soc. Neuroscience Abstracts, 19:13.2. *Society for Neuroscience*, 1993.
- Bickford M E, Günlük (Erisir) A, Guido W and Sherman SM. Basal forebrain projection to the visual thalamic reticular nucleus in the cat. *Society for Neuroscience*, 1993.
- Günlük (Erisir) A, Bickford M E, and Sherman SM. A nitric oxide synthetase co-localizes with ACh in brainstem inputs to the cat's LGN. *Society for Neuroscience*, 1992, slide session.
- Günlük (Erisir) A, Agarwala S and Petry HM. Patterns of cytochrome oxidase activity in the geniculostriate pathway of red-light reared tree shrews. *Investigative Ophthalmology and Visual Science*, 32:1117. ARVO, 1991, slide session, Sarasota, FL.
- Agarwala S, Günlük (Erisir) A and Petry HM 1991. NADPH-Diaphorase reactivity in tree shrew visual system. *Investigative Ophthalmology and Visual Science*, 32:1034. ARVO 1991.