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## Curriculum Vitae Amy Poremba

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### EDUCATIONAL AND PROFESSIONAL HISTORY

#### 1. Higher Education

National Institute of Mental Health, Bethesda, MD, 1998-2000, Neuroscience,  
Postdoctoral Fellow  
University of Texas, Austin TX, 1995-1997, Neuroscience,  
Postdoctoral Research Associate  
University of Illinois, Urbana-Champaign, IL, 1989-1995, Psychology, Ph.D. 1996  
University of Illinois, Urbana-Champaign, IL, 1984-1989, Psychology, B.S. 1989

#### 2. Professional and Academic Positions

2001- Assistant Professor  
Psychology Department  
Behavioral and Cognitive Neuroscience Area  
Neuroscience Program  
University of Iowa, Iowa City, IA

1998-1999 Adjunct Faculty  
Psychology Department  
American University  
Washington, D.C.

#### 3. Honors and Awards

Excellent Undergraduate Teaching Award, University of Illinois, 1988, 1989  
Awarded Neurobiology Of Learning and Memory Traineeship, 1989-1991  
Outstanding Undergraduate Teaching Award, University of Illinois, 1994  
Elected to membership in the honorary society, Phi Kappa Phi, 1995  
Awarded Physiology and Behavior Postdoctoral Traineeship, NIMH, 1997  
Selected Participant, Cognitive Neuroscience Workshop, Dartmouth, Summer 1998  
Awarded Excellent Poster Presentation, Annual Univ. of Texas Neuroscience Conf., 1997  
Invited Attendee, Learning and Memory Conference, Utah, 2000-2003  
Fellows Award for Research Excellence, National Institutes of Health, 2000  
University of Iowa Nominee for the National Searle Scholars Program, 2000  
University of Iowa Old Gold Summer Fellowship, 2001, 2002

#### 4. Memberships

Society for Neuroscience, Member since 1988  
Association for Research on Otolaryngology (ARO), Member since 2000

## SCHOLARSHIP

### Publications or Creative Works

#### a. Refereed Journal Articles and Chapters

Rama, P., Poremba, A., Mishkin, M., Yee, L., Courtney, S. M. fMRI mapping of auditory working memory for voice location and identity. 2004, *Cerebral Cortex*, epub ahead of print, April 14.

Poremba, A., Malloy, M.M., Saunders, R.C., Carson, R.E., Herscovitch, P., Mishkin, M. Species-specific calls evoke asymmetric activity in the monkey's temporal poles. *Nature*, 2004, 427, 448-451.

Poremba, A., Saunders, R.C., Sokoloff, L., Crane, A., Cook, M., Mishkin, M. Functional mapping of the primate auditory system. *Science*, Jan. 2003, 299, 568-572.

Poremba, A., and Gabriel, M. Amygdalar efferents initiate auditory thalamic discriminative training-induced neuronal activity. *Journal of Neuroscience*, 2001, 21, 270-278.

Shumake, J., Poremba, A., Edwards, E., Gonzalez-Lima, F. Congenital helpless rats as a genetic model for cortex metabolism in depression. *Neuroreport*, 2000, 11, 3793-3798.

Poremba, A. and Gabriel, M. Amygdala neurons are necessary for original acquisition but not maintenance of instrumental avoidance behavior in rabbits. *Journal of Neuroscience*, 1999, 19, 9635-9641.

Poremba, A., Jones, D. and Gonzalez-Lima, F. Functional mapping of learning-related metabolic activity with quantitative cytochrome oxidase histochemistry. In F. Gonzalez-Lima (Ed.). *Cytochrome Oxidase in Neuronal Metabolism and Alzheimer's Disease*. Plenum: New York, 1998, 109-144.

Poremba, A., Jones, D. and Gonzalez-Lima, F. Classical conditioning modifies cytochrome oxidase activity in the auditory system. *European Journal of Neuroscience*, 1998, 10, 3035-3043.

Poremba, A., Jones, D. and Gonzalez-Lima, F. Metabolic effects of blocking tone conditioning on the rat auditory system. *Neurobiology of Learning and Memory*, 1997, 68, 154-171.

Poremba, A. and Gabriel, M. Medial geniculate lesions block amygdalar and cingulothalamic learning-related neuronal activity. *Journal of Neuroscience*, 1997, 17, 8645-8655.

- Poremba, A. and Gabriel, M. Amygdalar lesions block discriminative avoidance learning and cingulothalamic training-induced neuronal plasticity in rabbits. *Journal of Neuroscience*, 1997, 17, 5237-5244.
- Hart, M., Poremba, A. and Gabriel, M. The nomadic engram: Overtraining eliminates the severe impairment of discriminative avoidance behavior produced by limbic thalamic lesions. *Behavioural Brain Research*, 1997, 82, 169-178.
- Gabriel, M., Kang, E., Poremba, A., Kubota, Y., Allen, M.T., Miller, D. P. and Steinmetz, J. E. Neural substrates of discriminative avoidance learning and classical eyeblink conditioning in rabbits: A double dissociation. *Behavioural Brain Research*, 1996, 82, 23-30.
- Kubota, Y., Wolske, M., Poremba, A., Kang, E. and Gabriel, M. Stimulus-related and movement-related single-unit activity in rabbit cingulate cortex and limbic thalamus during performance of discriminative avoidance behavior. *Brain Research*, 1996, 721, 22-38.
- Gabriel, M. and Poremba, A. The role of pain in cingulate cortical and limbic thalamic mediation of avoidance learning. In J.M. Besson, G. Guilbaud, and H. Olat (Eds.). *Forebrain Areas Involved in Pain Processing*. John Libbey and Company Ltd.: London, 1996, 197-212.
- Poremba, A., Kubota, Y. and Gabriel, M. Afferent connections of the rabbit anterior thalamus. *Brain Research Bulletin*, 1994, 33, 361-365.
- Steinmetz, J., Sears, L.L., Gabriel, M., Kubota, Y., Poremba, A. and Kang, E. Cerebellar interpositus nucleus lesions disrupt classical nictitating membrane conditioning but not discriminative avoidance learning in rabbits. *Behavioural Brain Research*, 1991, 45, 71-80.
- Gabriel, M., Vogt, B.A., Kubota, Y., Poremba, A. and Kang, E. Training-stage related neuronal plasticity in limbic thalamus and cingulate cortex during learning: A possible key to mnemonic retrieval. *Behavioural Brain Research*, 1991, 46, 175-185.
- Maren, S., Poremba, A. and Gabriel, M. Multi-unit activity of the amygdaloid basolateral nucleus during acquisition of discriminative avoidance behavior in rabbits. *Brain Research*, 1991, 549, 311-316.
- Vogt, B.A., Gabriel, M., Vogt, L.J., Poremba, A., Jensen, E.L., Kubota, Y. and Kang, E. Muscarinic receptor binding increases in anterior thalamus and cingulate cortex

during discriminative avoidance learning. *Journal of Neuroscience*, 1991, 11, 1508-1514.

Gabriel, M., Poremba, A., Ellison-Perrine, C. and Miller, J. Brainstem mediation of learning and memory, In W.R. Klemm and R.P. Vertes (Eds.), *Brainstem Mechanisms of Behavior* New York: John Wiley & Sons, 1990, 269-313.

**b. Non-refereed**

Poremba, A., M.M. Malloy, R.C. Saunders, E. Kang, R.E. Carson, P. Herscovitch, and M. Mishkin, FDG-PET imaging in rhesus monkeys during auditory working memory. *Soc. Neurosci. Abstr*, 2004.

Ng, C.W., M.I., Noblejas, J.S. Rodefer, and A. Poremba, The role of posterior cingulate cortex in attentional set-shifting in rats. *Soc. Neurosci. Abstr*, 2004.

Noblejas, M.I., C. Ng, J.S. Rodefer, and A. Poremba, Effect of anterior cingulate cortical lesions on attentional set-shifting in rats. *Soc. Neurosci. Abstr*, 2004.

Plakke, B., M.I. Noblejas, and A. Poremba, Lesions of the amygdala impair encoding of differential rewards. *Soc. Neurosci. Abstr*, 2004.

Ng, C.W., N.A. Francis, and A. Poremba. Neural correlates of working and reference memory in rats during 8-arm radial maze performance using -dg mapping. *Soc. Neurosci. Abstr*, 2003, Program no. 622.13.

Noblejas, M.I., and A. Poremba. Lesions of anterior or posterior cingulate cortex impair shifting between place and response strategies in rats. *Soc. Neurosci. Abstr*, 2003, Program no. 939.14.

Aktunc, M.E. and A. Poremba. Effects of amygdala lesions on spatial reference memory using an eight-arm radial maze with differential rewards. *Soc. Neurosci. Abstr*, 2002, Program no. 84.8.

Poremba, A., M.M. Malloy, R.C. Saunders, R.E. Carson, P. Herscovitch, and M. Mishkin. FDG-pet brain imaging in awake rhesus monkeys: sound presentations from different directions versus a single direction. *Soc. Neurosci. Abstr*, 2002, Program no. 261.14.

Courtney, S.M., P. Rama, A. Poremba, I. Yee, and M. Mishkin. Auditory working memory for voice location and identity. *Soc. Neurosci. Abstr*, 2002, Program. no. 222.3.

Rama , P., Poremba, A., Mishkin, M., Yee, L., Courtney, S. M. Auditory working memory for voice location and identity. *Human Brain Mapping*, abstract, 2002.

- Erickson, C.A., Chawla, M.K., Poremba, A., Worley, P.F., Guzowski, J.F., Barnes, C.A. The effects of auditory experience on neural activity revealed by expression of the immediate-early gene ARC. *Soc. Neurosci. Abstr.*, 2001, 316.4.
- Poremba, A., Carson, R.E., Malloy, M.M., Territo, W., Saunders, R.C., Herscovitch, P., Mishkin, M. FDG-PET imaging reveals hemispheric lateralization in macaque rostral superior temporal gyrus for species-specific monkey calls. *Soc. Neurosci. Abstr.*, 2001, 345.9.
- Poremba, A., Saunders, R.C., Crane, A.M., Alitto, H.J., Cook, M., Sokoloff, L., and Mishkin, M. Overlap of cortical regions related to auditory and visual processing in the primate mapped with 2-[<sup>14</sup>C]deoxyglucose. *Soc. Neurosci. Abstr.*, 2000, 26.
- Poremba, A., Saunders, R.C., Sokoloff, L., and Mishkin, M. Specific patterns of auditory evoked [<sup>14</sup>C]2-deoxyglucose uptake in the primate anterior superior temporal gyrus. *Assoc. Res. Otolaryngol. Abs.*, 2000.
- Poremba, A., Saunders, R.C., Crane, A.M., Alitto, H.J., Cook, M., Sokoloff, L., and Mishkin, M. Mapping the primate auditory system with [<sup>14</sup>C]2-deoxyglucose. *Soc. Neurosci. Abstr.*, 1999, 25, 1420.
- Shumake, J., Poremba, A., Edwards, E., Turner, R., Callaway, N.L., and Gonzalez-Lima, F. Metabolic mapping of cytochrome oxidase reveals altered limbic and brainstem activity in congenitally learned helpless rats. *Soc. Neurosci. Abstr.*, 1999, 25, 1582.
- Poremba, A., Jones, D., and Gonzalez-Lima, F. Auditory system correlates of excitatory Pavlovian conditioned fear mapped with cytochrome oxidase histochemistry. *Soc. Neurosci. Abstr.*, 1997, 23, 2119.
- Shin, S., Poremba, A., Jones, D., and Gonzalez-Lima, F. Sensory learning: Safety signal induced auditory system metabolic plasticity during differential inhibition of conditioned fear. *Soc. Neurosci. Abstr.*, 1997, 23, 2119.
- Gonzalez-Lima, F., Poremba, A., Humm, J.L., and Edwards, E. Congenital learned helpless rats show alterations of cytochrome oxidase metabolism in cingulate cortex. *Soc. Neurosci. Abstr.*, 1997, 23, 1660.
- Poremba, A. and Jones, D., and Gonzalez-Lima, F. Effects of blocking the Pavlovian conditioning of tones on the rat auditory system mapped with cytochrome oxidase histochemistry. *Soc. Neurosci. Abstr.*, 1996, 22, 646.9.

- Poremba, A. and Gabriel, M. The amygdala is necessary for the initial learning of discriminative avoidance behavior in rabbits, but not for long-term performance. *Soc. Neurosci. Abstr.*, 1995, 21, 502.
- Gabriel, M., Kubota, Y., Poremba, A., and Wolske, M. Inverted neuronal coding of discriminative stimuli in the medial dorsal thalamic nucleus during avoidance learning in rabbits. *Soc. Neurosci. Abstr.*, 1994, 20, 797.
- Poremba, A. and Gabriel, M. Lesions of the medial geniculate nucleus impair avoidance learning, limbic thalamic and cingulate cortical training-induced neuronal activity in rabbits. *Soc. Neurosci. Abstr.*, 1993, 19, 802.
- Poremba, A., Kubota, Y., Kang, E., and Gabriel, M. Cingulate cortical and limbic thalamic neuronal responses to unexpected cue and contextual stimuli during extinction of discriminative avoidance behavior in rabbits. *Soc. Neurosci. Abstr.*, 1992, 18, 1561.
- Gabriel, M., Tchong, D., Kubota, Y., Poremba, A., Kang, E., and Cuppernell, C. A system for multichannel neuronal recording during differential appetitive conditioning of rabbits. *Soc. Neurosci. Abstr.*, 1991, 17, 325.
- Kubota, Y., Kang, E., Poremba, A., and Gabriel, M. Sorting of single-units from multi-units: Limbic cortical and thalamic correlates of discriminative avoidance learning. *Soc. Neurosci. Abstr.*, 1991, 17, 324.
- Gabriel, M., Tchong, D., Kubota, Y., Poremba, A., Kang, E., and Cuppernell, C. A system for multichannel neuronal recording during differential appetitive conditioning of rabbits. *Soc. Neurosci. Abstr.*, 1991, 17, 325.
- Kubota, Y., Kang, E., Poremba, A., and Gabriel, M. Sorting of single-units from multi-units: Limbic cortical and thalamic correlates of discriminative avoidance learning. *Soc. Neurosci. Abstr.*, 1991, 17, 324.
- Poremba, A. and Gabriel, M. Amygdala lesions block acquisition of discriminative active avoidance learning in rabbits. *Soc. Neurosci. Abstr.*, 1991, 17, 325.
- Kang, E., Kubota, Y., Poremba, A., and Gabriel, M. Hippocampal lesions, limbic cortical and thalamic training-induced unit activity, avoidance conditioning and response to different forms of novelty in rabbits. *Soc. Neurosci. Abstr.*, 1990, 16, 264.
- Gabriel, M., Poremba, A., Kubota, K., Kang, E., and Vogt, B.A. Unit activity in cingulate cortical layers and anterior thalamic subnuclei during learning in rabbits. *Soc. Neurosci. Abstr.*, 1990, 16, 760.

- Kubota, K., Holombo, T., Poremba, A., Kang, E., and Gabriel, M. Cholinergic diagonal band lesions and limbic cortical and thalamic unit activity during learning in rabbits. *Soc. Neurosci. Abstr.*, 1990, 16, 264.
- Poremba, A., Kubota, Y., Kang, E., and Gabriel, M. CS-related hippocampal unit activity during avoidance conditioning in rabbits. *Soc. Neurosci. Abstr.*, 1990, 16, 264.
- Vogt, B.A., Gabriel, M., Vogt, L.J., Cox, A., Jensen, E.J., Kubota, K., and Kang, E. Behavioral conditioning increases muscarinic receptor binding in limbic thalamus and cortex. *Soc. Neurosci. Abstr.*, 1990, 16, 906.
- Maren, S., Cox, A., and Gabriel, M. Unit activity of the amygdaloid basolateral nucleus during acquisition and overtraining of discriminative avoidance behavior in rabbits. *Soc. Neurosci. Abstr.*, 1989, 15, 82.
- Gabriel, M., Kubota, Y., Cox, A., and Cuppernell, C. Neostriatal unit activity during learning enhanced in rabbits with fiber-sparing lesions in the anterior cingulate cortex. *Soc. Neurosci. Abstr.*, 1988, 14, 160.1.

## Grants

- External NIMH, RO3, Neural correlates of learning and memory, Fall 2002-2004, \$50000  
 NIH, RO1, Auditory cortical areas for encoding and memory, submitted Feb.1 2004

## Invited Lectures and Conference Presentations

### a. International

- "Mapping the auditory cortex." Seoul University National Hospital, Dept. of Nuclear Medicine, Seoul, South Korea, Oct. 2003
- "Functional mapping of the primate auditory system." University College London, Institute of Cognitive Neuroscience, Workshop, Organization and Reorganization of Cognitive Function: From animals to children and adults, May, 2002.

### b. National

- "Neural Circuitry underlying discriminative avoidance conditioning in rabbits." University of Texas, Austin, Texas, Behavioral Neuroscience Seminar, March, 1997.
- "Functional mapping of auditory learning and memory circuits: A multi-species analysis." Harvard University, Boston, Massachusetts, Psychology Department, February, 1999.
- "Mapping the primate auditory system with [<sup>14</sup>C]2-deoxyglucose." Johns Hopkins University, Medical School, Baltimore, Maryland, Hearing Science Center, November 1999.
- "Functional mapping of auditory learning and memory circuits: A multi-species analysis." State University of New York at Stony Brook, Stony Brook, New York, Psychology Department, January 2000.

"Functional mapping of auditory learning and memory circuits: A multi-species analysis." University of Alabama at Birmingham, Birmingham, Alabama, Psychology Department, February 2000.

"Functional mapping of auditory learning and memory circuits: A multi-species analysis." University of Texas at Austin, Austin, Texas, Psychology Department, February, 2000.

"Functional mapping of auditory learning and memory circuits." Yale University, New Haven, Connecticut, Psychology Department, February, 2000.

"Functional mapping of auditory learning and memory circuits." University of Vermont, Burlington, Vermont, Psychology Department, February, 2000.

"Functional mapping of auditory learning and memory circuits." University of Southern California, Los Angeles, California, Psychology Department, March, 2000.

"Functional mapping of auditory learning and memory circuits." University of Iowa, Iowa City, Ia, Psychology Department, March, 2000.

"PET Imaging: Auditory processing in the primate." University of Arizona, Tucson, AZ, March, 2002

"PET Imaging: Auditory processing in the primate." National Institute of Mental Health, Bethesda, MD, July, 2002

"Species-specific calls evoke asymmetric cortical activity." 1<sup>st</sup> Annual Primate Audition Satellite Symposium, New Orleans, November, 2002.