CURRICULUM VITAE

Hamilton E. Farris
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Summary

Research Assistant Professor with 17 years experience in bioacoustics and auditory physiology. Active in both laboratory and field research examining the evolution and neurophysiology of hearing. Over three years teaching and lecture experience at the university level.

Professional Experience

2006-present	**Research Assistant Professor**, Neuroscience / Otorhinolaryngology, LSUHSC
2007-2009	**Visiting Researcher**, Smithsonian Tropical Research Institute
2003-2006	**NIH NRSA Post-Doctoral Fellow**, Center for Neuroscience, LSUHSC
2002-2003	**Post-Doctoral Scientist**, Center for Neuroscience, LSUHSC
2000-2002	**Post-Doctoral Scientist**, Integrative Biology, Univ. Texas-Austin.
2001-2003	**Visiting Researcher**, Smithsonian Tropical Research Institute.
1994-2000	**Doctoral Candidate**, Neurobiology and Behavior, Cornell University.
2000	**Teaching Assistant**, Principles of Neurophysiology, Cornell University.
1995-2000	**National Institute of Mental Health (NIMH) trainee**, Cornell University.
1994-1995	**Teaching Assistant**, introductory biology for majors, Cornell University.
1992-1994	**Research Assistant**, National Center for Physical Acoustics, University of Mississippi. **Teaching Assistant**, introductory biology for majors, University of Mississippi.

Education

2000	Ph.D.	Cornell University	(Neurobiology & Behavior)
1994	M.S.	Univ. of Mississippi	(Biology)
1992	B.A.	Univ. of Mississippi	(Biology)

Theses

2000 Auditory sensitivity in trilling crickets, *Eunemobius carolinus* and *Gryllus rubens*. Cornell University (Ph.D.)

1994 Risk assessment in insects: behavioral response to acoustic stimuli. University of Mississippi (Masters)

Publications

Lentz1, L. Gordon W.C. **Farris, H.E**., MacDonald, G. Robbins, C.A., Tempel, B.L., Bazan, N.G., Rubel, E., Oesterle, E., Keats, B. (*in press*) Deafness and retinal degeneration in a novel USH1C knock-in mouse model. *Developmental Neurobiology*

Farris, H.E., Oshinsky, M., Forrest, T., and Hoy, R.R. (2008) Auditory sensitivity of an acoustic parasitoid (*Emblemasoma sp.*, Sarcophagidae, Diptera) and the calling behavior of potential hosts. *Brain , Behavior and Evolution*, **72**:16-26.

Farris, H.E., Wells, G.B. and Ricci, A.J. (2006) Steady-state adaptation of mechanotransduction modulates the resting potential of auditory hair cells, providing an assay for endolymph [Ca^{2+}]. *Journal of Neuroscience*. **26**, 12526-12536.

Farris, H.E., Rand, A.S. and Ryan, M.J. (2005) The effects of time, space and spectrum on auditory grouping in túngara frogs. *Journal of Comparative Physiology A*. **191**, 1173-1183.

Farris, H.E., and Ricci, A.J. (2005) Voltage-clamp errors cause anomalous interaction between independent ion channels. *Neuroreport*, **16**, 943-947.

Witte, K., **Farris, H.E.**, Ryan, M. and Wilczynski, W. (2005) How cricket frog females deal with a noisy world: habitat-related differences in auditory tuning. *Behavioral Ecology*, **16**, 571–579.

Farris, H.E., LeBlanc, C.L., Goswami, J. and Ricci, A.J. (2004) Probing the pore of the auditory hair cell mechanotransducer channel in turtle. *Journal of Physiology*, **558.3**, 769-792.

Wyttenbach, R. and **Farris, H.E.** (2004) Insect psychoacoustics. *Microscopy Research and Technique*, **63**, 375-387.

Farris, H.E., Mason, A.C. and Hoy, R.R. (2004) Identified auditory neurons in the cricket *Gryllus rubens*: temporal processing in calling song sensitive units. *Hearing Research*, **193**, 121-133.

Farris, H.E., Rand, A.S. and Ryan, M.J. (2002). The effects of spatially separated call components on phonotaxis in túngara frogs: Evidence for auditory grouping. *Brain, Behavior and Evolution*. **60**, 181-188.

Farris, H.E., and Hoy, R.R. (2002) Two-tone suppression in the cricket, *Eunemobius carolinus* (Gryllidae, Nemobiinae*). Journal of the Acoustical Society of America*, **111**, 1475-1485.

Farris, H.E., and Hoy, R.R. (2000). Ultrasound sensitivity in the cricket, *Eunemobius carolinus* (Gryllidae, Nemobiinae). *Journal of the Acoustical Society of America*, **107**, 1727-1736.

Farris, H.E., Forrest, T.G. and Hoy, R.R. (1998). The effect of ultrasound on the attractiveness of acoustic mating signals. *Physiological Entomology*, **23**, 322-328.

Farris, H.E., Forrest, T.G. and Hoy, R.R. (1997). The effects of calling song spacing and intensity on the attraction of flying crickets (Orthoptera: Gryllidae: Nemobiinae). *Journal of Insect Behavior*, **10**, 639-653.

Forrest, T.G., Read, M.P., **Farris H.E.**, and Hoy R.R. (1997). A tympanal hearing organ in scarab beetles. *Journal of Experimental Biology*, **200**, 601-606.

Forrest, T.G., **Farris, H.E.** and Hoy, R.R. (1995). Ultrasound acoustic startle response in scarab beetles. *Journal of Experimental Biology*, **198**, 2593-2598.

Manuscripts in Prep (data analysis complete)

Ponnath, A. and **Farris, H.E.** Computational Model of Temporal Filtering in an Auditory Neuron: A Biophysical Mechanism for Variance in Interspecific Sensitivity. (submitted J. Comp. Physiol.)

Farris, H.E. and Ryan, M.J. The effect of relative spatial separation on auditory grouping

Farris, H.E., Forrest, T. and Hoy, R.R. Context dependent auditory processing in *Euetheola*.

Published Abstracts and Proceedings Manuscripts

Ponnath, A. and **Farris, H.E**. (2008) Computational Model of Adaptation in an Auditory Interneuron: A Biophysical Mechanism for Variance in Temporal Processing. Washington, DC: *Society for Neuroscience.*

Farris, H.E., Wells, G.B. and Ricci, A.J. (2005) Adaptation of mechano-electric transduction currents dictates hair cell resting potential. Program No. 849.9. Washington, DC: *Society for Neuroscience.*

Farris, H.E., Rand, A.S. and Ryan, M.J. (2003). The effect of space, time and spectrum on auditory grouping túngara frogs. *33rd Annual Meeting of the Society for Neuroscience*. New Orleans, LA, USA.

Farris, H.E. Rand, A.S., and Ryan, M.J. (2002). Auditory grouping in the tungara frog: The roles of complex call components in what and where decisions. *Journal of the Acoustical Society of America*, **112**, 2259.

Farris, H.E. and Hoy, R.R. (2000). Temporal and spectral sensitivity in identified auditory units in the cricket, *Gryllus rubens*. *30th Annual Meeting of the Society for Neuroscience*. *New Orleans, LA, USA, 4-9 November, 2000. Society for Neuroscience Abstracts.* **26**(1-2). *Abstract No.-368.16*

Farris, H.E. and Hoy, R.R. (1998). Two-tone suppression of the ultrasound induced startle response in a cricket. *Proceedings of the 16th International Congress on Acoustics and the 135th meeting of the Acoustical Society of America*. Seattle, WA. USA. **2**, 687-688.

Farris, H.E. and Hoy, R.R. (1998). Two-tone suppression of the ultrasound induced startle response in a cricket. *Journal of the Acoustical Society of America*, **103**, 2826-2827.

Farris, H.E. and Hoy, R.R. (1997). Acoustic startle and two-tone suppression in a Nemobiine cricket, *Eunemobius carolinus. 27th Annual Meeting of the Society for Neuroscience, New Orleans, Louisiana, USA, 25-30 October, 1997. Society for Neuroscience Abstracts*. **23**, 1070.

Invited Presentations

Farris, H.E. (2009). Biophysical mechanisms that determine auditory filter shape. Dept. Anatomy & Physiol., LSUHSC.

Farris, H.E. (2006). Integrative auditory physiology. Dept. Biology, Univ. of New Orleans.

Farris, H.E. (2006). Hearing in trilling crickets. Dept. Biology, Loyola Univ. New Orleans.

Farris, H.E. (2006). Integrative auditory physiology. Dept. Biology, Univ. of Mississippi.

Farris, H.E., Rand, A.S., Ryan, M.J. (2004) Auditory grouping in túngara frogs. Animal Behavior Society, Oaxaca, Mexico.

Farris, H.E. (2002). Hearing in trilling crickets. Kresge Hearing Inst. LSUHSC

Farris, H.E. (2001). Hearing in trilling crickets. Dept. of Biology, Univ. of Missouri.

Farris, H.E. (2001). Temporal and spectral sensitivity of identified auditory units in crickets. Sixth Annual Univ. Texas Symposium on Neuroscience 10 February, 2001.

Farris, H.E. (2000). Hearing in trilling crickets. Sec. Integrative Biology, Univ. Texas-Austin.

Farris, H.E. (1998). Animal bioacoustics in the lab: some hows and whys of six-legged listeners. 136th meeting of the Acoustical Society of America. Norfolk, VA, USA, 12-16 October, 1998.

Farris, H.E. (1996). Ultrasound sensitivity in insects. Dept. of Biology, Vassar College.

Other Presentations

Ponnath, A. and **Farris, H.E**. (2008) Computational Model of Adaptation in an Auditory Interneuron: A Biophysical Mechanism for Variance in Temporal Processing. Washington, DC: *Society for Neuroscience.*

J Lentz, WC Gordon, **Farris, H.E.**, P Deininger, NG Bazan, B Keats. (2007) Animal models of Usher type IC. The Association for Research in Vision and Opthalmology, May, Ft. Lauderdale, FL.

J Lentz, J Phillips, K Owens, W Gordon, **Farris, H.E.**, F Pan, S Ng, P Deininger, N Bazan, E Rubel, D Raible, M Westerfield, B Keats. (2006) A knock-in mouse model of Usher type IC. The First International Symposium on Usher Syndrome, September, Omaha, NE.

Farris, H.E., Well G.B. and Ricci, A.J. (2006) Mechanoelectric Transduction and Adaptation Set Hair Cell Resting Potential and Allow an Estimate of Endolymphatic Ca2+ Concentrations. Baltimore, MD: *Association for Research in Otolaryngology*.

Farris, H.E., LeBlanc, C. and Ricci, A.J. (2003). Pharmacological clues to the nature of the mechano-electric transducer channel. *15th Annual Greater New Orleans Neuroscience Retreat*. 1 March, 2003.

Farris, H.E. and Hoy, R.R. (2000). Temporal and spectral sensitivity in identified auditory units in the cricket, *Gryllus rubens*. *30th Annual Meeting of the Society for Neuroscience*. New Orleans, LA, USA, 4-9 November, 2000.

Farris, H.E. and Hoy, R.R. (1997). Acoustic startle and two-tone suppression in a Nemobiine cricket, *Eunemobius carolinus*. *27th Annual Meeting of the Society for Neuroscience*. New Orleans, LA, USA, 25-30 October, 1997.

Farris, H.E. and Hoy, R.R. (1996). Ultrasound sensitivity in a Nemobiine, *Eunemobius carolinus*. *10th International Meeting on Insect Sound and Vibration*. Woods Hole, MA, USA, 8-11 September, 1996.

Farris, H.E. and Hoy, R.R. (1996). Risk assessment and mate choice in flying crickets. *Animal Behavior Society*. Flagstaff, AZ, USA, 3-8 August, 1996.

Farris, H.E. and Forrest, T.G. (1994). Acoustic sensitivity in the sugarcane beetle, *Euetheola humilis*. *Animal Behavior Society*. Seattle, WA, USA, 23-28 July, 1994.

Funding, Fellowships, Honors and Awards

2007-2012 Investigator, CoBRE (Center of Biomedical Research Excellence) NIH

Title: Mentoring Neuroscience in LA: A biomedical Program to Enhance Neuroscience

Grant # P20RR016816

2009 Grass Faculty Award. Marine Biological Laboratory.

Title: Neurophysiology of sound localization in túngara frogs

2005-2006 NIH NRSA Post-Doctoral Fellowship:

Title: Quantifying the role of Calcium in Mechanotransduction

2003-2005 NIH NRSA Post-Doctoral Fellowship:

Title: Mechanical Tuning in Auditory Sensory Hair Bundles

1998 Best student paper in animal bioacoustics:

Farris, H.E. and Hoy, R.R. Two-tone suppression of the ultrasound induced startle response in a cricket. *16th International Congress on Acoustics and the 135th meeting of the Acoustical Society of America*. Seattle, WA. USA, 20-26 June, 1998.

1995-2000 NIMH integrative training grant fellowship. Cornell University.

Society Memberships

Society for Neuroscience

Association for Research in Otolaryngology

Acoustical Society of America

International Society for Neuroethology

International Society for Behavioral Ecology

Animal Behavior Society

Societal Duties: Reviewed Manuscripts and Grants

NSF, Journal of Comparative Physiology A, Journal of Zoology, Brain Behavior and Evolution, Animal Behavior, Journal of the Acoustical Society of America, Journal of Evolutionary Biology, Journal of Arachnology, Journal of Orthopteran Research

Recent Teaching or Lecture Experience

LSUHSC: INTER 132, NEURO 203, NEURO 250, NRSC 264, ANAT 195

Univ.-Texas-Austin: Psychology 394U - Psychoacoustics