

## Curriculum Vitae

Brian Scott Nelson

### Present address:

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### Education:

Ph.D. Evolution, Ecology & Behavior, Department of Biology, Indiana University, 2004  
M.S. Biology, Department of Biological Sciences, Florida International University, 1998  
B.S. Wildlife Science, Department of Renewable Natural Resources, University of Arizona, 1993

### Research Interests:

Spatial hearing, Acoustic communication, Vocal production mechanisms, Animal behavior

### Grants:

Research Fellowship, National Institutes of Health, Ruth L. Kirschstein National Research Service Award, 5F32DC008267-03, (2006)

### Awards:

First Prize Best Student Paper Award in Bioacoustics, Meeting of the Acoustical Society of America, Chicago, IL, June, 2001  
Best Student Presentation Award, Conference of the Center for the Integrative Study of Animal Behavior, Indiana University, Bloomington, IN 2000  
Research Assistantship, Center for the Integrative Study of Animal Behavior, Indiana University, Fall 1999, Spring 2000, Fall 2000 and Spring 2001  
Summer Fellowship, Center for the Integrative Study of Animal Behavior, Indiana University, Summer 1998, 1999, 2000, 2001 and 2002

### Publications:

**Nelson** BS and Takahashi TT (In Press) Spatial hearing in echoic environments: The role of the envelope in owls. *Neuron*

**Nelson** BS and Takahashi TT (2008) Independence of echo-threshold and echo-delay in the barn owl *PLoS ONE* 3 (10): e3598. doi:10.1371/journal.pone.0003598

Takahashi TT, Keller CH, **Nelson** BS, Spitzer MW, Bala ADS and Whitchurch EA (2008) Object localization in cluttered acoustical environments. *Biological Cybernetics*. 98, 579-586

Suthers RA, Beckers GJL, and **Nelson** BS (2006) Vocal Mechanisms for Avian Communication. In: Behavior and Neurodynamics for Auditory Communication (Ed. by Kanwal JS and Ehret). Cambridge University Press

**Nelson** BS, Beckers GJL and Suthers RA (2005) Sound radiation and vocal tract filtering in the eastern towhee. *Journal of Experimental Biology*, 208, 297-308

Kolodziejski H, **Nelson** BS, and Smith TG (2005) Sex and species differences in neuromodulatory input to a premotor nucleus: A comparative study of substance P and communication behavior in weakly electric fish. *Journal of Neurobiology*. 62, 299-315

**Nelson** BS and Suthers RA (2004). Sound localization in a small passerine bird: discrimination of azimuth as a function of head orientation and sound frequency. *Journal of Experimental Biology* 207, 4121-4133

Beckers GJL, **Nelson** BS, and Suthers RA (2004). Vocal tract filtering by lingual articulation in a parrot. *Current Biology* 14, 1592-1597

**Nelson** BS (2004). Dynamics of frequency and amplitude modulations in vocalizations produced by eastern towhees, *Pipilo erythrophthalmus*. *Journal of the Acoustical Society of America*. 115, 1333-1344

- Nelson BS** (2003) Reliability of sound attenuation in Florida scrub habitat and behavioral implications. *Journal of the Acoustical Society of America* 113, 2900-2910
- Nelson BS** (2002) Duplex auditory distance assessment in a small passerine bird (*Pipilo erythrophthalmus*). *Behavioral Ecology and Sociobiology* 53, 42-50
- Nelson BS** (2000) Avian dependence on sound-pressure level as an auditory distance cue, *Animal Behaviour* 59, 57-67
- Nelson BS** and Stoddard PK, (1998) Accuracy of auditory distance and azimuth perception by a passerine bird in natural habitat, *Animal Behaviour* 56, 467-477
- Woofenden GE, Pranty B, Fitzpatrick JW, and **Nelson BS** (1996) Western wood-pewee recorded in highlands county, Florida, *Florida Field Naturalist* 24, 61-92

#### **Manuscripts in preparation:**

- † Baxter CS, **Nelson BS** and Takahashi TT, Localization dominance depends on correlation level
- ‡ Masterson J, **Nelson BS** and Takahashi TT, Independence of delay and the breakdown of localization dominance in humans.
- Nelson BS**, Masterson J and Takahashi TT, Spatial hearing in echoic environments: The role of the envelope in humans
- Nelson BS** and Takahashi TT, Influence of spatial location and echo-delay on neural correlates of the precedence effect in the barn owl's auditory midbrain

† Robert D. Clark Award for Undergraduate Research, University of Oregon, 2010

‡ Aaron Novick Award for Undergraduate Research, University of Oregon, 2008

#### **Invited Presentations:**

- Nelson BS** and Takahashi TT, Localization of amplitude modulated sounds and their echoes in the barn owl 157th Meeting of the Acoustical Society of America, 2009, Portland, Oregon
- Nelson BS** and Takahashi TT, Recovery from localization dominance in the barn owl. 154th Meeting of the Acoustical Society of America, 2007, New Orleans, Louisiana
- Nelson BS**, Sound frequency channels for communication in a small songbird. Portland State University, Portland, Oregon, 2006
- Nelson BS**, Sound localization in a small bird and implications for communication in natural habitat. Oberlin College, Oberlin, Ohio, 2002

#### **Service:**

Referee for: *Animal Behavior*, *Behavior*, *Behavioral Processes*, *Behavioral Ecology and Sociobiology*, *Canadian Journal of Zoology*, *Frontiers in Zoology*, *Journal of Comparative Psychology*, *Journal of the Acoustical Society of America*, *Journal of Neurophysiology*, and *National Science Foundation*

#### **Employment:**

Student Internship, Archbold Biological Station, Florida, January 1994 to July 1994

Associate Instructor, Dept. of Biological Sciences, Florida International University, 1994, 1995 and 1996.

Associate Instructor, Dept. of Biology, Indiana University, 1998, 1999, 2002 and 2003

#### **Courses Taught:**

Associate instructor, Florida International University, Department of Biological Sciences: General Biology Laboratory I; General Biology Laboratory II; Ecology Laboratory.

Associate instructor, Indiana University, Department of Biology: Biology Laboratory; Biological Basis of Sex differences.

#### **Scientific Organization Affiliation:**

Acoustical Society of America, Association for Research in Otolaryngology