ACOUSTICAL · SOCIETY · OF · AMERICA

ASA, Upper Midwest Chapter

Meeting Announcement

Date: Tuesday, November 27th

Time: Social at 5:30pm, Dinner at 6:30pm and Program at 7:30pm. Dinner will be held at the **Chianti Grill**, 1611 West Larpenteur Ave, Falcon Heights, MN. http://www.chiantigrill.com

Program: "Breeding Choruses and Cocktail Parties: Treefrogs as Model Systems for Human Hearing" with Dr. Mark A. Bee, Department of Ecology, Evolution, and Behavior, U of M

Location: Room 150, Ecology Building, U of M St. Paul Campus (Directions Below)

RSVP to Dave Braslau (david@braslau.com or 612-331-4571)

Program Abstract: The "cocktail party problem" refers to the difficulty we have understanding speech in multi-talker environments. People with impaired hearing and computer algorithms for automated speech recognition have even greater difficulty understanding speech under cocktail-party-like listening conditions. The long-term goal of our research is to understand the basic neurosensory mechanisms that vertebrate auditory systems use to perceive vocal communication signals in noisy social environments. We are developing two frogs in the gray tree frog species complex (Hyla chrysoscelis and Hyla versicolor) as model systems for investigating these questions. Frogs are ideal models for understanding vocal communication in noisy social environments. Male frogs form dense aggregations ("choruses") and produce loud acoustic signals ("mating calls") to attract females. Frog calls typically range between 80-95 dB SPL (RMS @ 1 m; 100-120 dB peak SPL @ 1 m). In a noisy chorus comprising dozens or hundreds of males, female frogs are able to detect, recognize, localize and discriminate among the calls of males of their own species. Hence, female frogs have evolved to solve a biological equivalent of the human cocktail party problem. In this talk, I will discuss recent and ongoing research that aims to understand how female gray tree frogs perceive male mating calls in the noisy environment of a breeding chorus.

Background: Dr. Bee's research draws on questions and methods from behavioral ecology, evolutionary biology, comparative psychology, human psychoacoustics, and neurophysiology to investigate animal acoustic communication. In his lab, he integrates mechanistic and evolutionary studies to provide answers to fundamental questions about animal communication: (i) How do animals encode information about themselves in acoustic signals? (ii) How do animals acquire information about other conspecifics through the perception of acoustic signals? (iii) How do these processes function in natural habitats and noisy social environments? And (iv) how do these processes evolve? His principal study organisms are frogs, in which acoustic communication mediates species recognition and sexual selection in terms of both female mate choice and male-male competition.
http://www.cbs.umn.edu/eeb/faculty/BeeMark/

Directions / Parking: This event will be held in Room 150 in the Ecology building on the U of M St. Paul Campus. Below is a link with a campus map and instructions to the Ecology Building (http://www1.umn.edu/twincities/maps/Ecology/index.html). There is parking available in a lot outside the building (see the map) and there is additional parking in the parking garage on Gortner Ave. (http://www1.umn.edu/twincities/maps/GortRamp/index.html). Dinner will be held at the Chianti Grill, for directions please visit the link at the top of this page.

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Membership: Membership in the Upper Midwest Chapter is open to anyone with an interest in acoustics. We rely on membership dues in order to provide programming and special events throughout the year. Thank you to all who have completed their membership form for the 2007-8 year. If you have not yet had the opportunity to complete the form you may download it from http://umcasa.org.

Website: http://umcasa.org **Email:** umcasa@gmail.com

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